

INDEX OF PATENTS

RELATING TO

ELECTRICITY,

EMBRACING PATENTS ISSUED BY

THE UNITED STATES PATENT OFFICE

FROM JULY 1, 1890, TO JUNE 30, 1891.

APPENDIX No. X.

COMPILED UNDER THE DIRECTION OF THE COMMISSIONER OF PATENTS.

282519

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1892.

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WASHINGTON:
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APPENDIX No. X.

PART I.

CONSISTING OF A

SUB-CLASS INDEX OF ALL PATENTS

RELATING TO

ELECTRICITY

Issued from July 1, 1890, to June 30, 1891, inclusive, giving names of Inventors,
and dates and numbers of Patents in each sub-class in
numerical and chronological order.

CLASSIFIED INDEX

OF

PATENTS RELATING TO ELECTRICITY

FROM JULY 1, 1890, TO JUNE 30, 1891.

171. GENERATION.—6. BATTERIES—GALVANIC.

No.	Name.	Date.	No.	Name.	Date.
431,073	Parrish, M. W	July 1, 1890	442,516	Dutton, C. E., jr	Dec. 9, 1890
432,681	Waite, H. E	July 22, 1890	443,219	Brewer, H. J	Dec. 23, 1890
432,973	Brewer, H. J	July 29, 1890	443,976	Smith, G. A	Dec. 30, 1890
433,738	Maquay, S. W	Aug. 5, 1890	445,425	Crowdus, W. A	Jan. 27, 1891
434,593	Fink, W. M	Aug. 19, 1890	446,544	Wright, W	Feb. 17, 1891
435,346	Hubbell, C. J	Aug. 26, 1890	446,727	Blair, J. and Hunter A. G	Feb. 17, 1891
435,421	Hewett, E. M. G	Sept. 2, 1890	447,016	Robinson, M. W	Feb. 24, 1891
435,688	Edison, T. A	Sept. 2, 1890	448,798	Hirlmann, C. J	Mar. 24, 1891
436,001	Irving, F. K. and Hill, F. M	Sept. 9, 1890	448,847	Leakin, J. H	Mar. 24, 1891
436,516	Wollensak, J. F. and Gill, W. E	Sept. 16, 1890	448,936	Collins, J. J	Mar. 24, 1891
437,393	Crosby, E. H	Sept. 30, 1890	449,299	Stoecker, H. P	Mar. 31, 1891
437,469	Liebig, G. A. and Willms, C	Sept. 30, 1890	450,105	Le Sueur, E. A	Apr. 7, 1891
438,586	Murphy, R. E	Oct. 14, 1890	450,285	Crowdus, W. A	Apr. 14, 1891
439,151	Helleesen, W. L. F	Oct. 28, 1890	450,354	Burnley, W	Apr. 14, 1891
439,516	Hussey, C. A	Oct. 28, 1890	450,840	Willms, C	Apr. 21, 1891
439,737	Weston, E	Nov. 4, 1890	451,142	Van Gestel, J. T	Apr. 28, 1891
440,420	Cohlman, W	Nov. 11, 1890	451,948	McCullough, G. C	May 12, 1891
441,130	Brewer, H. J	Nov. 25, 1890	452,303	Hanson, W	May 12, 1891
441,403	Enholm, O. A	Nov. 25, 1890	453,898	Brinkerhoff, J. O. and Smith, M. E	June 9, 1891
441,843	Hoy, A. H	Dec. 2, 1890	454,057	Macmillan, W	June 16, 1891
441,958	Kennedy, C. W. and Groswith, H	Dec. 2, 1890	454,598	Hathaway, P	June 23, 1891
441,967	De Peralta, C. G	Dec. 2, 1890	454,724	Emmner, J., jr	June 23, 1891

171. GENERATION.—72. BATTERIES—SECONDARY.

431,341	Foote, T. M	July 1, 1890	440,024	Entz, J. B. and Phillips, W. A	Nov. 4, 1890
431,447	Dixon, T. S. E	July 1, 1890	440,175	Marx, F	Nov. 11, 1890
431,742	Goodwin, C. R	July 8, 1890	440,210	Weed, E. B	Nov. 11, 1890
431,968	Goodwin, C. R	July 8, 1890	440,216	Woolf, A. E	Nov. 11, 1890
432,202	McLaughlin, J. F	July 15, 1890	440,505	Renault, B. and Desvernay, M	Nov. 11, 1890
432,672	Kookogey, W. P	July 22, 1890	441,413	Hatch, G. E	Nov. 25, 1890
432,834	Morris, H. G	July 22, 1890	441,818	Bradbury, J. Y. and Stone, F. J	Dec. 2, 1890
433,174	Kookogey, W. P	July 29, 1890	441,959	Kennedy, C. W	Dec. 2, 1890
434,093	Schoop, P	Aug. 12, 1890	442,187	Johnston, J. G	Dec. 9, 1890
434,199	Pumpelly, J. K	Aug. 12, 1890	442,203	Roberts, I. L	Dec. 9, 1890
434,224	Woodward, H	Aug. 12, 1890	442,294	Roberts, I. L	Dec. 9, 1890
434,301	Schoop, P	Aug. 12, 1890	442,390	Pumpelly, J. K	Dec. 9, 1890
434,376	Cochran, G. W	Aug. 12, 1890	442,391	Pumpelly, J. K	Dec. 9, 1890
434,444	Hicks, T. H	Aug. 19, 1890	442,969	Fitz-Gerald, D. G. and Hough, A. H.	Dec. 16, 1890
434,457	Pepper, D., jr	Aug. 19, 1890	443,454	Kitsee, I	Dec. 23, 1890
434,458	Pepper, D., jr	Aug. 19, 1890	443,455	Kitsee, I	Dec. 23, 1890
434,869	Hollingshead, W. B	Aug. 19, 1890	444,392	Kitsee, I	Dec. 23, 1890
436,050	Whittier, T. P	Sept. 9, 1890	443,456	Kitsee, I	Dec. 23, 1890
436,602	Hollingshead, W. B	Sept. 16, 1890	443,457	Kitsee, I	Dec. 23, 1890
437,848	Lampert, H., jr	Oct. 7, 1890	443,556	Wardwell, H. H	Dec. 30, 1890
438,532	Currie, S. C. C	Oct. 14, 1890	444,392	Currie, S. C. C	Jan. 6, 1891
438,827	Reynier, E. N	Oct. 21, 1890	444,969	Bain, F	Jan. 20, 1891
439,240	Gibson, C. D. P	Oct. 28, 1890	445,422	Brush, C. F	Jan. 27, 1891
439,301	Mehren, J. F	Oct. 28, 1890	445,542	Cheswright, H. T	Feb. 3, 1891
439,324	Mason, E. J	Oct. 28, 1890	445,872	Barrett, S. H	Feb. 3, 1891
439,416	Morrison, W. and Schmidt, L	Oct. 28, 1890	446,104	Slattery, M. M	Feb. 10, 1891
439,594	Hollingshead, W. B	Oct. 28, 1890	446,527	Laurent-Cély, A. M. F. and Timmis, I. A.	Feb. 17, 1891
439,850	Woolf, A. E	Nov. 4, 1890		Currie, S. C. C	Feb. 24, 1891
440,023	Entz, J. B. and Phillips, W. A	Nov. 4, 1890	447,279		

171. GENERATION.—72. BATTERIES—SECONDARY—Continued.

NO.	NAME	DATE.	NO.	NAME	DATE.
450,834	Currie, S. C. C	Apr. 21, 1891	453,695	Griscom, W. W	June 9, 1891
451,407	Lloyd, H. H	Apr. 28, 1891	453,950	Walter, J. H	June 9, 1891
451,445	Aldrich, T. H.	May 5, 1891	453,995	Currie, S. C. C	June 9, 1891
451,540	Washburn, G. A	May 5, 1891	454,091	Tommasi, D. and Theryc, C	June 16, 1891
451,541	Washburn, G. A	May 5, 1891	454,187	Sellon, J. S	June 16, 1891
451,921	Emmner, J., jr	May 12, 1891	454,818	Anderson, B	June 23, 1891

171. GENERATION.—74. BATTERIES—SECONDARY—APPLICATIONS.

432,657	Timmis, I. A	July 22, 1890	437,272	Wilking, F. and Müller, H	Sept. 30, 1890
435,084	Bauer, A. H	Aug. 26, 1890	438,116	Shapleigh, W	Oct. 7, 1890
435,687	Edison, T. A	Sept. 2, 1890	443,181	Rowland, H. A. and Duncan, L	Dec. 23, 1890

171. GENERATION.—73. BATTERIES—THERMAL.

433,451	Dickerson, E. N	Aug. 5, 1890	434,500	Cox, H. B	Aug. 19, 1890
434,427	Cox, H. B	Aug. 19, 1890	434,587	Edison, T. A	Aug. 19, 1890
434,428	Cox, H. B	Aug. 19, 1890	434,640	Mestern, H	Aug. 19, 1890
434,429	Cox, H. B	Aug. 19, 1890	449,186	Webb, J. W	Mar. 31, 1891

171. GENERATION.—95. GALVANOMETERS.

433,637	Weston, E	Aug. 5, 1890	444,791	Bradley, C. S	Jan. 13, 1891
434,032	Pfannkuche, G	Aug. 12, 1890	444,803	Weston, E	Jan. 13, 1891
434,154	Lange, P	Aug. 12, 1890	444,804	Weston, E	Jan. 13, 1891
434,557	Eikemeyer, R	Aug. 19, 1890	444,895	Weston, E	Jau. 13, 1891
434,558	Eikemeyer, R	Aug. 19, 1890	444,966	Wirt, C	Jan. 20, 1891
435,550	Walker, G. W	Sept. 2, 1890	446,489	Weston, E	Feb. 17, 1891
435,695	Herrick, A. B	Sept. 2, 1890	446,491	Weston, E	Feb. 17, 1891
435,896	Howell, J. W	Sept. 2, 1890	446,492	Weston, E	Feb. 17, 1891
437,868	Ritchie, A. M	Oct. 7, 1890	446,493	Weston, E	Feb. 17, 1891
437,926	Harris, T	Oct. 7, 1890	446,494	Weston, E	Feb. 17, 1891
438,226	Currie, S. C. C	Oct. 14, 1890	448,792	Wirt, C	Mar. 24, 1891
438,882	Frey, C. P	Oct. 21, 1890	449,766	Shubert, H. C	Apr. 7, 1891
440,259	Weston, E	Nov. 11, 1890	450,221	Cunningham, H. H., Rawson, F. L. and Woodhouse, O. E.	Apr. 14, 1891
440,290	Weston, E	Nov. 11, 1890		Weston, E	May 12, 1891
440,291	Weston, E	Nov. 11, 1890	452,326	Wagner, F. C	June 9, 1891
442,423	Currie, S. C. C	Dec. 9, 1890	453,681	Herrick, A. B	June 16, 1891
442,843	Weston, E	Dec. 16, 1890	454,270		
444,552	Hopkinson, J	Jan. 13, 1891			

171. GENERATION.—122. INDUCTION COILS.

432,022	De Castro, A	July 15, 1890	447,569	Kennedy, R	Mar. 3, 1891
432,050	Kammeyer, C. E	July 15, 1890	450,577	Davis, J	Apr. 14, 1891
446,730	Brown, F. H	Feb. 17, 1891	450,923	Woolley, L. G	Apr. 21, 1891

171. GENERATION.—123. INDUCTORIUMS—TRANSFORMERS—ROTARY.

440,700	Dressler, C. E	Nov. 18, 1890	454,883	Scott, G. J	June 30, 1891
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171. GENERATION.—124. INDUCTORIUMS—TRANSFORMERS—STATIONARY.

433,702	Tesla, N	Aug. 5, 1890	436,200	Westinghouse, G., jr	Sept. 9, 1890
434,164	Terry, C. A	Aug. 12, 1890	448,644	Farmer, M. G	Mar. 24, 1891
435,114	De Ferranti, S. Z	Aug. 26, 1890	454,090	Thomson, E	June 16, 1891

171. GENERATION.—33. MAGNETO-ELECTRIC.

431,134	Winkler, C. F	July 1, 1890	432,387	Enholm, O. A	July 15, 1890
432,169	Perret, F. A	July 15, 1890	432,500	Wagemann, E	July 15, 1890
432,206	McLaughlin, J. F	July 15, 1890	432,577	Spang, H. W	July 22, 1890

CLASSIFIED INDEX—ELECTRICITY.

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171. GENERATION.—33. MAGNETO-ELECTRIC.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
432,652	Thomson, E.	July 22, 1890	442,870	Edgerton, N. H.	Dec. 16, 1890
432,655	Thomson, E.	July 22, 1890	443,407	Scheuritzel, C. P. and Hess, J. L.	Dec. 23, 1890
432,748	Edgerton, N. H.	July 22, 1890	444,067	Holcombe, A. G.	Jan. 6, 1891
433,051	Spang, H. W.	July 29, 1890	444,486	Entz, J. B.	Jan. 13, 1891
433,390	Belding, W. S.	July 29, 1890	444,794	Cook, A. S.	Jan. 13, 1891
433,391	Belding, W. S.	July 29, 1890	445,521	Condict, G. H.	Jan. 27, 1891
433,392	Belding, W. S.	July 29, 1890	445,906	Schwarze, C. J.	Feb. 3, 1891
433,393	Belding, W. S.	July 29, 1890	446,092	Brown, E. K.	Feb. 10, 1891
433,523	Easton, J. W.	Aug. 5, 1890	446,536	Parshall, H. F.	Feb. 17, 1891
433,557	Winkler, C. F.	Aug. 5, 1890	447,352	Rice, E. W., jr.	Mar. 3, 1891
434,206	Schmid, A.	Aug. 12, 1890	447,384	Thomson, E.	Mar. 3, 1891
434,590	Entz, J. B.	Aug. 19, 1890	447,469	Main, W.	Mar. 3, 1891
435,015	Collins, W. F.	Aug. 26, 1890	447,921	Tesla, N.	Mar. 10, 1891
435,296	Franklin, E.	Aug. 26, 1890	448,040	Hornberger, W.	Mar. 10, 1891
435,503	Lieb, C. A.	Sept. 2, 1890	448,331	Frietsch, K. G.	Mar. 17, 1891
435,504	Lieb, C. A.	Sept. 2, 1890	448,666	Nutting, S. E.	Mar. 24, 1891
435,690	Edison, T. A.	Sept. 2, 1890	448,669	Perret, F. A.	Mar. 24, 1891
436,408	Field, S. D.	Sept. 16, 1890	449,774	Duennen, H.	Apr. 7, 1891
436,964	Wirt, C.	Sept. 23, 1890	450,219	Collins, W. F.	Apr. 14, 1891
437,360	Hochhausen, W.	Sept. 30, 1890	450,367	Eickemeyer, R.	Apr. 14, 1891
437,501	Mordey, W. M.	Sept. 30, 1890	450,552	Atwood, La M. C.	Apr. 14, 1891
437,663	Rae, F. B.	Sept. 30, 1890	450,639	Seiberling, J. F.	Apr. 21, 1891
437,844	Blades, H. H.	Oct. 7, 1890	450,975	Parcelle, A. L.	Apr. 21, 1891
436,946	Swett, E. A.	Oct. 7, 1890	451,177	Emmet, W. L. R.	Apr. 28, 1891
438,302	Edison, T. A.	Oct. 14, 1890	451,242	Grant, P.	Apr. 28, 1891
438,602	Bradley, C. S.	Oct. 21, 1890	451,574	Rice, L. C.	May 5, 1891
438,668	Winkler, C. F.	Oct. 21, 1890	451,700	Poland, L. N. P.	May 5, 1891
439,974	McGahan, F. L.	Nov. 4, 1890	451,884	Wheeler, S. S.	May 5, 1891
440,424	Freeman, W. K.	Nov. 11, 1890	451,894	Collins, W. F.	May 5, 1891
440,425	Freeman, W. K.	Nov. 11, 1890	451,909	Blades, H. H.	May 12, 1891
440,557	Freeman, W. K.	Nov. 11, 1890	452,420	Wessel, F. A.	May 19, 1891
440,691	Brown, H. P.	Nov. 18, 1890	452,546	Mitchell, J. M.	May 19, 1891
440,817	Rae, F. B.	Nov. 18, 1890	452,561	Bartholomew, I. H.	May 19, 1891
440,908	Andersen, F. V. and Girdlestone, J. O.	Nov. 18, 1890	452,717	Riker, A. L.	May 19, 1891
441,246	Lieb, C. A.	Nov. 25, 1890	452,934	Riker, A. L.	May 19, 1891
441,256	Reese, T., jr.	Nov. 25, 1890	452,951	Freeman, W. K.	May 26, 1891
441,391	Brown, C. E. L.	Nov. 25, 1890	453,822	Thomson, E.	May 26, 1891
441,487	Harrington, W. E.	Nov. 25, 1890	453,858	Sperry, E. A.	June 9, 1891
441,695	Patterson, W. S.	Dec. 2, 1890	454,336	Davis, H. and Stokes, A. H.	June 9, 1891
441,793	Freeman, W. K.	Dec. 2, 1890	454,488	Eickemeyer, R.	June 16, 1891
442,173	Dressler, C. E.	Dec. 9, 1890		Lieb, C. A.	June 23, 1891

171. GENERATION.—118. MAGNETO-ELECTRIC—COUPLINGS.

436,148	Newton, E. C.	Sept. 9, 1890	448,303	Short, S. H.	Mar. 17, 1891
439,929	Child, C. T.	Nov. 4, 1890			

171. GENERATION.—76. MAGNETO-ELECTRIC—HAND MACHINES.

431,559	Colgate, A. E.	July 8, 1890	446,661	Clarke, G. P.	Feb. 17, 1891
438,434	Ginocchio, N. B.	Oct. 14, 1890	453,242	Humans, W.	June 2, 1891

171. GENERATION.—34. METERS.

431,248	Canderay, J.	July 1, 1890	448,280	Thomson, E.	Mar. 17, 1891
432,653	Korst, P. H.	July 13, 1890	448,894	Thomson, E.	Mar. 24, 1891
432,654	Thomson, E.	July 22, 1890	448,676	Shallenberger, O. B.	Mar. 24, 1891
434,501	Cauderay, J.	Aug. 19, 1890	448,677	Shallenberger, O. B.	Mar. 24, 1891
437,183	Dyer, R. N.	Sept. 30, 1890	449,001	Shallenberger, O. B.	Mar. 24, 1891
437,754	Einstein, J. and Kornprobst, S.	Oct. 7, 1890	449,002	Shallenberger, O. B.	Mar. 24, 1891
437,763	Reckenzaun, A.	Oct. 7, 1890	449,003	Shallenberger, O. B.	Mar. 24, 1891
439,381	Bristol, W. H.	Oct. 28, 1890	451,125	Irving, F. K.	Apr. 28, 1891
440,431	Marès, E.	Nov. 11, 1890	451,520	Rice, E. W., jr.	May 5, 1891
440,627	De Ferranti, S. Z.	Nov. 18, 1890	452,276	Miller, H. W.	May 12, 1891
442,501	Wood, J. J.	Dec. 9, 1890	452,935	Freeman, W. K.	May 26, 1891
442,705	Meston, A. W.	Dec. 16, 1890	452,936	Freeman, W. K.	May 26, 1891
443,636	Faure, C. A.	Dec. 30, 1890	454,949	Pilkington, H. M. and White, R. S.	June 30, 1891
443,642	Elieson, C. P.	Dec. 30, 1890		Tesla, N.	June 30, 1891
444,930	Thomson, E.	Jan. 20, 1891	455,068		
444,931	Thomson, E.	Jan. 20, 1891			

CLASSIFIED INDEX—ELECTRICITY.

171. GENERATION.—126. PYRO-MAGNETO ELECTRIC DEVICES.

No.	NAME.	DATE.	No.	NAME.	DATE.
434,586	Edison, T. A				Aug. 19, 1890

171. GENERATION.—40. REGULATORS.

431,618	Polson, G. A	July 8, 1890	440,590	Hardy, F. D	Nov. 11, 1890
431,812	Johnson, E. H	July 8, 1890	441,665	Hyer, W. E	Dec. 2, 1890
433,269	Belt, P. P	July 29, 1890	441,794	Freeman, W. K	Dec. 2, 1890
434,951	Raughtigan, M	Aug. 26, 1890	441,807	Pepper, D., jr	Dec. 2, 1890
11,108	Higham, D	(Reis.)	442,668	Rice, E. W., jr	Dec. 16, 1890
435,332	Thury, R		444,416	Anthony, W. A	Jan. 13, 1891
435,490	Foote, T. M	Sept. 2, 1890	444,587	Ball, R. E	Jan. 13, 1891
435,525	Scribner, C. E	Sept. 2, 1890	445,448	Holmes, J. H	Jan. 27, 1891
435,526	Scribner, C. E	Sept. 2, 1890	446,229	Harris, L. S	Feb. 10, 1891
435,527	Scribner, C. E	Sept. 2, 1890	446,284	Ellis, A. L	Feb. 10, 1891
435,545	Prescott, G. B., jr	Sept. 2, 1890	448,681	Short, S. H	Mar. 24, 1891
435,700	Leonard, H. W	Sept. 2, 1890	449,245	Fisher, B. H	Mar. 31, 1891
435,899	Johnson, E. H	Sept. 2, 1890	449,288	Lahmeyer, W	Mar. 31, 1891
435,982	Stanley, W., jr	Sept. 9, 1890	450,641	Stanley, W., jr	Apr. 21, 1891
436,113	Atwood, La M. C	Sept. 9, 1890	450,985	Williams, J. A	Apr. 21, 1891
436,901	Nutting, S. E	Sept. 23, 1890	451,312	Tischendoerfer, F	Apr. 28, 1891
437,704	Lundell, R	Oct. 7, 1890	453,318	Wessel, F. A	June 2, 1891
438,204	Thomson, E	Oct. 14, 1890	453,319	Wessel, F. A	June 2, 1891
438,656	Thomson, E	Oct. 21, 1890	453,320	Wessel, F. A	June 2, 1891
439,417	Morrison, W	Oct. 28, 1890	454,475	Hering, C	June 23, 1891
439,775	Gartner, A	Nov. 4, 1890	454,476	Hering, C	June 23, 1891
440,016	Cleaver, F. J. and Fassold, G	Nov. 4, 1890	455,267	Wheeler, S. S	June 30, 1891

171. GENERATION.—119. REGULATORS—ALTERNATING.

431,216	Stanley, W., jr	July 1, 1890	431,235	Shallenberger, O. B	July 1, 1890
431,217	Stanley, W., Jr	July 1, 1890	444,939	Lemp, H. and Schmidt, L. M	Jan. 20, 1891
431,218	Stanley, W., jr	July 1, 1890			

171. GENERATION.—97. SYSTEMS OF DISTRIBUTION.

431,460	Gutmann, L	July 1, 1890	440,224	De Ferranti, S. Z	Nov. 11, 1890
431,879	Dickerson, E. N	July 8, 1890	441,542	Enholm, O. A	Nov. 25, 1890
434,162	Shallenberger, O. B. and Byllesby, H. M.	Aug. 12, 1890	444,553	Hopkinson, J	Jan. 13, 1891
			445,687	Bottome, T. D	Feb. 3, 1891
434,614	Walter, H. E	Aug. 19, 1890	446,515	Gutmann, L	Feb. 17, 1891
438,308	Edison, T. A	Oct. 14, 1890			

172. MOTIVE POWER.—9. CAR BRAKES.

438,452	Van Depoele, C. J	Oct. 14, 1890	440,843	Blanchard, G. W	Apr. 7, 1891
441,215	Wheless, M	Nov. 25, 1890	451,514	Payne, J. M	May 5, 1891
443,661	Hunter, R. M	Dec. 30, 1890	452,041	Ries, E. E	May 12, 1891

172. MOTIVE POWER.—15. DENTAL INSTRUMENTS.

436,804	Roberts, M. J	Sept. 23, 1890	449,847	Eggers, F. F	Apr. 7, 1891
439,238	Faught, L. A	Oct. 28, 1890	453,260	Kells, C. E., jr	June 2, 1891

172. MOTIVE POWER.—75. LOCOMOTION.

432,646	Smith, M. H	July 22, 1890	444,480	Bentley, E. M	Jan. 13, 1891
432,675	Mansfield, F	July 22, 1890			

172. MOTIVE POWER.—36. MOTORS.

432,561	Reckenzaun, A	July 22, 1890	433,400	Foote, T. M	July 29, 1890
432,707	Humbert, H	July 22, 1890	434,096	Sperry, E. A	Aug. 12, 1890
432,988	Doyle, C. B	July 29, 1890	434,180	Foote, T. M	Aug. 12, 1890

172. MOTIVE POWER.—36. MOTORS—Continued.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
435,639	Blades, H. H.	Sept. 2, 1890	448,603	Chaplin, E. D.	Mar. 17, 1891
435,744	Groswith, H.	Sept. 2, 1890	449,362	Dean, J. H.	Mar. 31, 1891
435,958	Wightman, M. J.	Sept. 9, 1890	449,660	Baxter, W., jr.	Apr. 7, 1891
447,160	Mayer, M.	Sept. 23, 1890	450,441	Whipple, F. E.	Apr. 14, 1891
437,662	Rae, F. B.	Sept. 30, 1890	451,212	Sharp, E. P.	Apr. 28, 1891
437,832	Emmner, J., jr.	Oct. 7, 1890	451,559	Hyer, W. E.	May 5, 1891
437,835	Little, S. and S. J.	Oct. 7, 1890	451,870	Hewett, E. M. G.	May 5, 1891
438,837	Buchanan, G.	Oct. 21, 1890	451,872	La Boiteaux, F. M.	May 5, 1891
440,699	Dressler, C. E.	Nov. 18, 1890	452,151	Whittingham, G. H.	May 12, 1891
440,776	Pullman, H. B.	Nov. 18, 1890	452,214	Chisholm, D. J.	May 12, 1891
441,953	Groswith, H.	Dec. 2, 1890	452,359	Briggs, G. T.	May 19, 1891
441,954	Groswith, H.	Dec. 2, 1890	452,429	Gray, E.	May 19, 1891
442,208	Schiffmann, W. W.	Dec. 9, 1890	452,795	Kintner, C. J.	May 26, 1891
444,807	Beach, R. H.	Jan. 20, 1891	452,937	Freeman, W. K.	May 26, 1891
444,900	Wightman, M. J.	Jan. 20, 1891	453,032	Blades, H. H.	May 26, 1891
445,499	Dresskell, W. M.	Jan. 27, 1891	453,287	Macrae, R.	June 2, 1891
445,741	Weller, F. A.	Feb. 3, 1891	453,367	Haskins, C. C.	June 2, 1891
445,907	Sharp, E. P.	Feb. 3, 1891	454,024	Blades, H. H.	June 16, 1891
447,291	Blades, H. H.	Mar. 3, 1891	454,626	Rae, F. B.	June 23, 1891
447,704	Traylor, R. W.	Mar. 3, 1891	454,627	Roney, A. B.	June 23, 1891
447,734	Meyrowitz, E. B. and Buchhop, F.	Mar. 3, 1891	454,882	Scott, G. J.	June 30, 1891
			455,109	McGahan, F. L.	June 30, 1891
447,827	Hochhausen, W.	Mar. 10, 1891	455,110	McGahan, F. L.	June 30, 1891
447,939	Chapman, W. H.	Mar. 10, 1891			

172. MOTIVE POWER.—120. MOTORS—ALTERNATING.

433,700	Tesla, N.	Aug. 5, 1890	444,188	Van Depoele, C. J.	Jan. 6, 1891
433,701	Tesla, N.	Aug. 5, 1890	444,934	Billberg, C. O. C. and Winand, P. A. N.	Jan. 20, 1891
433,703	Tesla, N.	Aug. 5, 1890		Tesla, N.	Jan. 27, 1891
433,834	Van Depoele, C. J.	Aug. 5, 1890	445,207	Patten, F. J.	Feb. 3, 1891
434,488	Thomson, E.	Aug. 19, 1890	445,623	Patten, F. J.	Feb. 3, 1891
438,603	Bradley, C. S.	Oct. 21, 1890	445,624	Gutmann, L.	Feb. 24, 1891
439,042	Stanley, W., jr.	Oct. 21, 1890	446,864	Eickemeyer, R.	Mar. 17, 1891
439,459	Zipernowsky, C., Déri, M. and Bláthy, O. T.	Oct. 28, 1890	448,326	Van Depoele, C. J.	Apr. 14, 1891
439,102	Bradley, C. S.	Oct. 28, 1890	450,544	Tesla, N.	June 30, 1891
443,980	Van Depoele, C. J.	Dec. 30, 1890	455,067		

172. MOTIVE POWER.—126. MOTORS—RECIPROCATING.

431,492	Van Depoele, C. J.	July 1, 1890	450,543	Van Depoele, C. J.	Apr. 14, 1891
431,493	Van Depoele, C. J.	July 1, 1890	451,320	Eickemeyer, R.	Apr. 28, 1891
440,821	Bock, L., jr.	Nov. 18, 1890			

172. MOTIVE POWER.—8. STEERING AND PROPULSION.

450,875	Sims, W. S.				Apr. 21, 1891
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172. MOTIVE POWER.—83. TRANSMISSION OF POWER.

431,170	Marvin, H. N.	July 1, 1890	436,275	Van Depoele, C. J.	Sept. 9, 1890
431,494	Van Depoele, C. J.	July 1, 1890	436,276	Van Depoele, C. J.	Sept. 9, 1890
431,495	Van Depoele, C. J.	July 1, 1890	436,277	Van Depoele, C. J.	Sept. 9, 1890
431,496	Van Depoele, C. J.	July 1, 1890	440,977	Van Depoele, C. J.	Nov. 18, 1890
433,758	Zipernowsky, C. and Déri, M.	Aug. 5, 1890	444,265	Bentley, E. M.	Jan. 6, 1891
434,489	Thomson, E.	Aug. 19, 1890	446,030	Sperry, E. A.	Feb. 10, 1891
434,816	Van Depoele, C. J.	Aug. 19, 1890	450,541	Van Depoele, C. J.	Apr. 14, 1891
435,261	Van Depoele, C. J.	Aug. 26, 1890	451,786	Van Depoele, C. J.	May 5, 1891
435,983	Stephens, W.	Sept. 9, 1890	452,296	Van Depoele, C. J.	May 12, 1891
436,127	Edison, T. A.	Sept. 9, 1890			

173. CONDUCTORS.—13. CONDUCTORS.

432,310	Higham, D.	July 15, 1890	433,917	Warner, E. P.	Aug. 5, 1890
433,706	Widdifield, W. P. and Bowman, A. H.	Aug. 5, 1890	433,920	Wiley, G. L. and Acheson, E. G.	Aug. 5, 1890

CLASSIFIED INDEX—ELECTRICITY.

173. CONDUCTORS.—13. CONDUCTORS—Continued.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
433,922	Wiley, G. L. and Acheson, E. G.	Aug. 5, 1890	448,359	Nichols, H. B.	Mar. 17, 1891
434,885	Phillips, W. A.	Aug. 19, 1890	448,604	Conner, W. A.	Mar. 17, 1891
435,629	Holecombe, A. G.	Sept. 2, 1890	449,168	Norman, T. W.	Mar. 31, 1891
436,432	Oehrle, W. E.	Sept. 16, 1890	449,400	Bishop, J. D.	Mar. 31, 1891
437,568	Clark, E.	Sept. 30, 1890	450,589	Marsh, J. W.	Apr. 14, 1891
437,632	Splitdorf, C. F.	Sept. 30, 1890	450,734	Bunker, W. I.	Apr. 21, 1891
437,913	Brooks, D., jr.	Oct. 7, 1890	451,586	Williams, J. B.	May 5, 1891
438,003	Kundson, A. A.	Oct. 7, 1890	451,587	Williams, J. B.	May 5, 1891
438,592	Eckert, W. H. and Gregory, W. H.	Oct. 14, 1890	451,605	Andrews, J. D. F.	May 5, 1891
			452,091	Williams, J. B.	May 12, 1891
441,837	Greenfield, E. T.	Dec. 2, 1890	452,510	Williams, J. B.	May 19, 1891
444,477	Wright, A. P.	Jan. 13, 1891	452,565	Curry, W.	May 19, 1891
446,655	Arld, H.	Feb. 17, 1891	452,725	Williams, J. B.	May 19, 1891
447,896	Nash, F. J.	Mar. 10, 1891	454,060	McCracken, E. D.	June 16, 1891
447,897	Nash, F. J.	Mar. 10, 1891	454,546	Sperry, A. W.	June 23, 1891

173. CONDUCTORS.—94. LEAD COVERED.

437,330	Brooks, D., jr.	Sept. 30, 1890	452,341	Conner, W. A.	May 12, 1891
450,839	Walcott, J. E.	Apr. 21, 1891	452,342	Conner, W. A.	May 12, 1891
452,340	Conner, W. A.	May 12, 1891			

173. CONDUCTORS.—70. CONDUCTORS—UNDERGROUND.

431,780	Parsley, W. L.	July 8, 1890	443,824	Cope, T. J.	Dec. 30, 1890
433,025	Patterson, W. R.	July 29, 1890	443,992	Hart, W. H.	Jan. 6, 1891
434,076	Zöpke, F. G. C.	Aug. 12, 1890	444,377	Cutter, G.	Jan. 6, 1891
434,165	Westinghouse, G., jr.	Aug. 12, 1890	446,214	Wilson, C. H.	Feb. 10, 1891
437,126	Loth, C. E.	Sept. 23, 1890	447,350	Reilly, J. C.	Mar. 3, 1891
437,445	Morton, T. M.	Sept. 30, 1890	450,206	Wessel, F. A.	Apr. 14, 1891
439,391	Edison, T. A.	Oct. 28, 1890	451,614	Cobb, H. B.	May 5, 1891
441,043	Verstraete, E.	Nov. 18, 1890	453,733	Price, J. E.	June 9, 1891
441,840	Greenfield, E. T.	Dec. 2, 1890	454,155	Readman, W.	June 16, 1891
442,162	Young, H. H.	Dec. 9, 1890	454,275	Johnson, E. H.	June 16, 1891
442,868	Du Bois, J. S.	Dec. 16, 1890	454,938	Chenoweth, A. C.	June 30, 1891
443,823	Cope, T. J.	Dec. 30, 1890	454,939	Chenoweth, A. C.	June 30, 1891

173. CONDUCTORS.—14. CONNECTORS.

431,412	Studte, H.	July 1, 1890	447,833	Kuigbt, C. M. and Hawken, T.	Mar. 10, 1891
433,948	Lieb, C. A.	Aug. 12, 1890	448,680	Shlaudeman, F.	Mar. 24, 1891
434,087	Lieb, C. A.	Aug. 12, 1890	449,307	Ball, H. P.	Mar. 31, 1891
434,892	Scott, G. J.	Aug. 19, 1890	449,721	Wheeler, G. K.	Apr. 7, 1891
434,943	Orcutt, E. L.	Aug. 26, 1890	451,364	Brewer, H. J.	Apr. 28, 1891
436,857	Jones, F. R.	Sept. 23, 1890	451,933	Hunt, A. M.	May 12, 1891
437,116	Hinphy, J. J.	Sept. 23, 1890	452,516	Carroll, E. and Lambert, T. B.	May 19, 1891
438,400	Brennen, G. J.	Oct. 14, 1890	453,225	Wheeler, F.	June 2, 1891
441,919	Banta, W. E.	Dec. 2, 1890	454,181	Nash, E. L., Stout, G. G. and Davis, J. R.	June 16, 1891
442,370	Garland, W. H.	Dec. 9, 1890			
445,365	Bergmann, S.	Jan. 27, 1891	454,430	Greenfield, E. T.	June 16, 1891
445,751	Hoffman, J. W.	Feb. 3, 1891	454,669	Strauss, J. B.	June 23, 1891
445,841	Short, S. H.	Feb. 3, 1891	454,794	Bickford, J. H.	June 23, 1891
446,871	Lieb, C. A.	Feb. 24, 1891			

173. CONDUCTORS.—28. INSULATORS.

433,561	Furloug, L.	Aug. 5, 1890	444,879	Elkins, C.	Jan. 20, 1891
434,144	Dunbar, J. K.	Aug. 12, 1890	445,790	Winton, H. D.	Feb. 3, 1891
434,879	Oakman, S.	Aug. 19, 1890	445,969	Branch, J. R.	Feb. 10, 1891
434,992	Muehlberg, C. O.	Aug. 26, 1890	448,395	Wheeler, G. K.	Mar. 17, 1891
436,120	Clubbuck, H. E.	Sept. 9, 1890	448,956	Graham, G. H. and Gaunane, T.	Mar. 24, 1891
437,685	Gaynor, T. F.	Oct. 7, 1890	450,384	Bertolette, D. A.	Apr. 14, 1891
438,495	Short, S. H.	Oct. 14, 1890	450,708	Creighton, T.	Apr. 21, 1891
440,042	Kessler, W.	Nov. 4, 1890	451,379	Haines, R. D.	Apr. 28, 1891
441,849	Locke, F. M. and Lapp, J.	Dec. 2, 1890	451,950	Oakman, S.	May 12, 1891
443,187	Bain, F.	Dec. 23, 1890	453,036	Brady, T. H.	May 26, 1891
444,317	Potter, J. S. and Cartwright, D. J.	Jan. 6, 1891			

173. CONDUCTORS.—31. LIGHTNING RODS.

No.	Name.	Date.	No.	Name.	Date.
433,459	Ferrell, I. M.	Aug. 5, 1890	446,130	Downey, G. W.	Feb. 10, 1891
437,526	Spang, H. W.	Sept. 30, 1890	452,796	Kress, G. R.	May 26, 1891
442,048	Hodges, N. D. C.	Dec. 16, 1890	452,983	Radford, C. M.	May 26, 1891

173. CONDUCTORS.—43. RHEOSTATS.

432,131	Flemming, O.	July 15, 1890	441,293	Doyle, J.	Nov. 25, 1890
432,279	Massey, G. B.	July 15, 1890	441,838	Greenfield, E. T.	Dec. 2, 1890
432,894	Parrish, T. J.	July 22, 1890	441,918	Ames, T. K.	Dee. 2, 1890
434,853	Wessel, F. A.	Aug. 19, 1890	444,707	Lehman, J. H.	Jan. 13, 1891
435,985	Thone, F.	Sept. 9, 1890	446,490	Weston, E.	Feb. 17, 1891
437,011	Bentley, E. M.	Sept. 23, 1890	447,494	O'Meara, J.	Mar. 3, 1891
437,111	Gunning, J. H.	Sept. 23, 1890	448,682	Short, S. H.	Mar. 24, 1891
437,412	Deprez, M.	Sept. 30, 1890	452,574	Jenney, C. D.	May 19, 1891
438,037	Vetter, J. C.	Oct. 7, 1890	454,207	Eickemeyer, R., jr.	June 16, 1891
439,939	Gilbert, E. R.	Nov. 4, 1890	454,969	Sigsbee, C. D., Hayward, T. S.	June 30, 1891
440,384	Wirt, C.	Nov. 11, 1890		and Anderson, F. S.	

174. MEDICAL AND SURGICAL.—87. BATHS.

443,580	Lyke, N.				Dec. 30, 1890
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174. MEDICAL AND SURGICAL.—88. BODY-WEAR.

431,978	Jaekson, A. W.	July 8, 1890	447,857	Williams, P. G.	Mar. 10, 1891
434,746	Williams, R. E.	Aug. 19, 1890	448,128	Crisp, J. A. and Webb, G. F.	Mar. 10, 1891
437,079	Ashbrook, L. D.	Sept. 23, 1890	448,953	Fuller, W. C.	Mar. 24, 1891
439,347	Fields, J. F.	Oct. 28, 1890	449,345	Andrus, D. P.	Mar. 31, 1891
443,226	Pratt, J. L.	Dec. 23, 1890	452,250	Williams, C. D.	May 12, 1891
444,599	Owen, A.	Jan. 13, 1891	454,313	Webb, G. F.	June 16, 1891
444,735	Thomas, M. E.	Jan. 13, 1891	454,573	Sherman, W. N.	June 23, 1891

174. MEDICAL AND SURGICAL.—89. ELECTRODES.

433,384	Woodward, J. H.	July 29, 1890	444,881	Gardiner, J. B.	Jan. 20, 1891
434,024	Monrath, G. and Gibbons, W. M.	Aug. 12, 1890	445,636	Chambers, J. C.	Feb. 3, 1891
435,343	Brown, F. H.	Aug. 26, 1890	449,651	Partseh, E.	Mar. 31, 1891
435,376	Brown, F. H.	Aug. 26, 1890	450,690	Wilson, T. S.	Apr. 21, 1891
438,041	Watkins, R. L.	Oct. 7, 1890	452,220	Gunning, J. H.	May 12, 1891
444,597	Lichtenstadt, D. and C.	Jan. 13, 1891	453,476	Harness, C. B.	June 2, 1891

175. SPECIAL APPLICATIONS.—4. APPLICATIONS—GENERAL.

431,777	Miller, J. D. and Dofflemyre, J. A.	July 8, 1890	446,703	Dewey, M. W.	Feb. 17, 1891
436,205	Berlin, C. F.	Sept. 9, 1890	450,872	Reardon, C. B.	Apr. 21, 1891
443,282	Holmes, H. E. and Grosvenor, C. F.	Dec. 23, 1890	451,603	Sterry, T. N.	May 5, 1891
445,860	De Place, L.	Feb. 3, 1891	454,717	Holson, A. B.	May 19, 1891
				Deeker, P.	June 23, 1891

175. SPECIAL APPLICATIONS.—5. APPLICATIONS—TOOLS AND MACHINES.

432,209	McLaughlin, J. F.	July 15, 1890	443,283	Holmes, H. E. and Grosvenor, C. F.	Dec. 23, 1890
432,432	Palmer, C. M.	July 15, 1890		Kilbourn, W. H.	Dec. 30, 1890
432,433	Palmer, C. M.	July 15, 1890	443,646	Kells, C. E., jr.	Dec. 30, 1890
434,382	Currie, S. C. C.	Aug. 12, 1890	443,772	Otis, N. P. and Smith, R. C.	Jan. 13, 1891
434,671	Mellett, L.	Aug. 19, 1890	444,640	Baxter, W., jr.	Mar. 31, 1891
436,843	Smith, R. D. O.	Sept. 23, 1890	449,611	Baxter, W., jr.	Apr. 7, 1891
439,180	Perkins, F. B.	Oct. 28, 1890	449,661	Baxter, W., jr.	Apr. 7, 1891
439,213	Veeder, C. H.	Oct. 28, 1890	449,662	Baxter, W., jr.	Apr. 7, 1891
439,577	Dewey, M. W.	Oct. 28, 1890	454,095	Wakefield, W. O.	June 16, 1891
442,155	Virtue, G. F.	Dec. 9, 1890	454,462	Eickemeyer, R.	June 23, 1891
442,654	Weyburn, E. D.	Dec. 16, 1890	454,832	Bennett, E. S. and Parshall, H. F.	June 23, 1891

175. SPECIAL APPLICATIONS.—21. ELECTRO-MAGNETS.

No.	Name.	Date.	No.	Name.	Date.
432,896	Porter, C. S	July 22, 1890	451,308	Park, H. S	Apr. 28, 1891
438,780	Schmid, F. M	Oct. 21, 1890	452,003	Lipe, C. E	May 12, 1891
449,358	Wessel, F. A	Mar. 31, 1891			

175. SPECIAL APPLICATIONS.—16. HEATERS.

431,439	Coffin, C. L	July 1, 1890	440,664	Thomson, E	Nov. 18, 1890
432,205	McLaughlin, J. F	July 15, 1890	441,401	Dewey, M. W	Nov. 25, 1890
432,629	Lemp, H. and Tregoning, J	July 22, 1890	442,649	Talmage, C. H	Dec. 16, 1890
432,630	Lemp, H	July 22, 1890	442,932	Abshagen, E	Dec. 16, 1890
432,651	Thomson, E	July 22, 1890	442,933	Abshagen, E	Dec. 16, 1890
432,653	Thomson, E	July 22, 1890	442,954	Coffin, C. L	Dec. 16, 1890
432,656	Thomson, E	July 22, 1890	443,224	Lemp, H	Dec. 23, 1890
432,727	Dewey, M. W	July 22, 1890	443,748	Dewey, M. W	Dec. 30, 1890
432,932	Burton, W. L	July 22, 1890	443,749	Dewey, M. W	Dec. 30, 1890
433,671	Carpenter, C. E	Aug. 5, 1890	444,855	Ries, E. E	Jan. 20, 1891
434,017	Fowler, H. E	Aug. 12, 1890	444,914	Burton, G. D. and Angell, E. E	Jan. 20, 1891
434,133	Kookogey, W. P	Aug. 12, 1890	444,926	Thomson, E	Jan. 20, 1891
434,450	Lemp, H	Aug. 19, 1890	444,927	Thomson, E	Jan. 20, 1891
434,468	Robb, R	Aug. 19, 1890	444,928	Thomson, E	Jan. 20, 1891
434,530	Thomson, E	Aug. 19, 1890	444,946	Thomson, E	Jan. 20, 1891
434,531	Thomson, E	Aug. 19, 1890	445,770	Dewey, M. W	Feb. 3, 1891
434,532	Thomson, E	Aug. 19, 1890	445,771	Dewey, M. W	Feb. 3, 1891
435,110	Burton, G. D	Aug. 26, 1890	446,174	O'Meara, J	Feb. 10, 1891
435,111	Burton, G. D	Aug. 26, 1890	446,831	Donovan, T. J	Feb. 17, 1891
435,283	Coffin, C. L	Aug. 26, 1890	446,974	Lemp, H. and Schmidt, L. M	Feb. 24, 1891
435,284	Coffin, C. L	Aug. 26, 1890	447,023	Carpenter, C. E	Feb. 24, 1891
435,643	Dewey, M. W	Sept. 2, 1890	447,104	Dewey, M. W	Feb. 24, 1891
435,644	Dewey, M. W	Sept. 2, 1890	447,127	Butterfield, H. R	Feb. 24, 1891
436,119	Carpenter, C. E	Sept. 9, 1890	447,143	Ashbaugh, J. I	Feb. 24, 1891
436,125	Dewey, M. W	Sept. 9, 1890	447,353	Rich, C. C	Mar. 3, 1891
436,519	Dewey, M. W	Sept. 16, 1890	448,317	Carpenter, C. E	Mar. 17, 1891
436,864	Abshagen, E	Sept. 23, 1890	448,743	O'Meara, J	Mar. 24, 1891
437,570	Coffin, C. L	Sept. 30, 1890	448,879	Dewey, M. W	Mar. 24, 1891
437,571	Coffin, C. L	Sept. 30, 1890	449,035	Capek, J. V	Mar. 24, 1891
437,654	Lander, G. and Simpson, J. H	Sept. 30, 1890	449,036	Capek, J. V	Mar. 24, 1891
437,771	Butterfield, H. R	Oct. 7, 1890	449,258	Robinson, A	Mar. 31, 1891
438,406	Dewey, M. W	Oct. 14, 1890	449,356	Thomson, E	Mar. 31, 1891
438,407	Dewey, M. W	Oct. 14, 1890	449,357	Thomson, E	Mar. 31, 1891
438,408	Dewey, M. W	Oct. 14, 1890	449,404	Dewey, M. W	Mar. 31, 1891
438,409	Dewey, M. W	Oct. 14, 1890	449,836	Thomson, E	Apr. 7, 1891
438,525	Burton, G. D	Oct. 14, 1890	451,239	Dewey, M. W	Apr. 28, 1891
438,657	Thomson, E	Oct. 21, 1890	451,240	Dewey, M. W	Apr. 28, 1891
438,658	Thomson, E	Oct. 21, 1890	451,345	Thomson, E	Apr. 28, 1891
438,723	Burton, G. D	Oct. 21, 1890	452,042	Ries, E. E	May 12, 1891
439,724	Drew, C. W. and Francis, E. R	Nov. 4, 1890	452,056	Zipernowsky, C	May 12, 1891
440,071	Talmage, C. H	Nov. 4, 1890	453,164	Ries, E. E	May 26, 1891
440,534	Bettendorf, W. P. and J. W	Nov. 11, 1890	454,698	Angell, E. E	June 23, 1891
440,640	Lemp, H	Nov. 18, 1890	454,979	Drew, C. W. and Francis, E. R	June 30, 1891
440,641	Lemp, H	Nov. 18, 1890	455,010	Appleyard, A. E	June 30, 1891

175. SPECIAL APPLICATIONS.—115. IGNITING DEVICES—AUTOMATIC.

441,458	White, L. R. S	Nov. 25, 1890	445,727	Cutler, H. H	Feb. 3, 1891
444,706	Lane, T. W	Jan. 13, 1891	445,728	Cutler, H. H	Feb. 3, 1891
444,896	Lane, T. W	Jan. 20, 1891			

175. SPECIAL APPLICATIONS.—116. IGNITING DEVICES—MANUAL.

432,197	Graham, R	July 15, 1890	436,354	Hayden, M. M	Sept. 16, 1890
432,215	Redding, H	July 15, 1890	453,618	Brown, H. B	June 9, 1891
432,884	Lehman, J. H	July 22, 1890			

175. SPECIAL APPLICATIONS.—25. INCRUSTATION.

435,518	Pollock, J	Sept. 2, 1890	443,598	Langstaffe, J	Dec. 30, 1890
438,579	Faunce, A. B. and Cabell, S. G	Oct. 14, 1890			

175. SPECIAL APPLICATIONS.—93. MAGNETIC LOCKS AND BOLTS.

No.	Name.	Date.	No.	Name.	Date.
437,682	Damon, G. L	Oct. 7, 1890	447,409	Kaiser, J. H. and Ledwith, A. B	Mar. 3, 1891
438,236	Hollar, W. H. and Holmes, F. S	Oct. 14, 1890	448,110	Bates, L.	Mar. 10, 1891
446,509	Colby, E. J	Feb. 17, 1891	450,068	Grefen, H	Apr. 7, 1891
446,967	Flowers, M. I	Feb. 24, 1891			

175. SPECIAL APPLICATIONS.—90. SEPARATORS.

432,823	Finney, G. S	July 22, 1890	444,223	Payne, C. Q	Jan. 6, 1891
434,588	Edison, T. A. and Dickson, W. K. L.	Aug. 19, 1890	446,704	Edwards, W. C	Feb. 17, 1891
			446,767	Buchanan, C. Y	Feb. 17, 1891
438,357	McMahan, J. M	Oct. 14, 1890	449,610	Moffatt, R. R	Mar. 31, 1891
438,897	Richards, F. H	Oct. 21, 1890	449,726	Ball, C. M. and Norton, S	Apr. 7, 1891
440,070	Von Syo, E	Nov. 4, 1890	451,208	Edwards, W. C	Apr. 28, 1891
441,060	Conkling, G	Nov. 18, 1890	451,369	Conkling, J. P	Apr. 28, 1891
442,042	Finney, G. S	Dec. 16, 1890	451,370	Conkling, J. P	Apr. 28, 1891
442,043	Finney, G. S	Dec. 16, 1890	453,317	Townsend, H. C	June 2, 1891
442,044	Finney, G. S	Dec. 16, 1890	454,555	Atkins, C. H	June 23, 1891

175. SPECIAL APPLICATIONS.—84. VALVE CONTROLLERS.

433,375	Sparrow, F. M	July 29, 1890	449,889	Turner, G. E	Apr. 7, 1891
435,898	Johnson, E. H	Sept. 2, 1890	450,927	Chatard, F. E	Apr. 21, 1891
436,219	Deeds, H. W	Sept. 9, 1890	451,649	Dayton, C. A	May 5, 1891
437,673	Bell, L. and Root, T. H	Oct. 7, 1890	448,273	Stout, J. V	Mar. 17, 1891
441,817	Bell, L. and Root, T. H	Dec. 2, 1890	448,274	Stout, J. V	Mar. 17, 1891
443,716	O'Meara, J	Dec. 30, 1890	454,541	Winkley, E. E	June 23, 1891
443,789	Ongley, C. E	Dec. 30, 1890			

176. ELECTRIC LIGHTING.—80. CUT-OUTS—ELECTRO-MAGNETIC.

431,035	Daft, L	July 1, 1890	447,676	Gammon, G. C	Mar. 3, 1891
432,978	Chase, H. A	July 29, 1890	447,826	Hochhausen, W	Mar. 10, 1891
432,979	Chase, H. A	July 29, 1890	448,166	Sweet, E. A	Mar. 10, 1891
435,897	Johnson, E. H	Sept. 2, 1890	453,572	Baumann, R	June 2, 1891
438,301	Edison, T. A	Oct. 14, 1890	454,782	Thomson, E	June 23, 1891
443,195	Mingle, G. W	Dec. 23, 1890	454,926	Clausen, W. H	June 30, 1891
446,902	Tirrell, J. P	Feb. 24, 1891	455,092	Billberg, C. O. C. and Winand, P. A. N.	June 30, 1891
447,529	Taintor, G	Mar. 3, 1891			

176. ELECTRIC LIGHTING.—78. CUT-OUTS—THERMAL.

431,062	Kimball, J. L. and Wirt, H. C	July 1, 1890	439,859	Bossert, W. F	Nov. 4, 1890
431,185	Favor, L. B	July 1, 1890	440,361	McManman, J. A	Nov. 11, 1890
431,186	Favor, L. B	July 1, 1890	440,685	Alton, G. H. and Rice, E. W	Nov. 18, 1890
431,718	Favor, L. B	July 8, 1890	441,066	Hayes, H. V	Nov. 18, 1890
432,521	Field, S. D	July 22, 1890	441,933	Cartwright, D. J	Dec. 2, 1890
432,980	Chase, H. A	July 29, 1890	443,497	Bremer, W. G	Dec. 30, 1890
433,022	Noyes, B. J	July 29, 1890	443,565	Bremer, W. G	Dec. 30, 1890
433,045	Scribner, C. E	July 29, 1890	444,892	Aldrich, A. T	Jan. 20, 1891
433,187	Shapleigh, M. S	July 29, 1890	444,929	Thomson, E	Jan. 20, 1891
433,229	Bernstein, A	July 29, 1890	445,217	Barrett, A	Jan. 27, 1891
433,744	Sargent, M. O	Aug. 5, 1890	445,686	Bottome, T. D	Feb. 3, 1891
433,770	Cunnington, J. G. L	Aug. 5, 1890	446,895	Seymour, A. P	Feb. 24, 1891
434,168	Wurts, A	Aug. 12, 1890	446,966	Field, S. D	Feb. 24, 1891
434,169	Wurts, A	Aug. 12, 1890	448,782	Hunter, R. M	Mar. 24, 1891
434,186	Jaques, W. E. and Emmott, G. R	Aug. 12, 1890	448,980	Miller, I. N	Mar. 24, 1891
434,509	Huntington, C. W	Aug. 19, 1890	449,209	Curtiss, G. F	Mar. 31, 1891
435,048	Smith, W. F	Aug. 26, 1890	449,289	Maxstadt, F. W	Mar. 31, 1891
435,102	Possons, N. S	Aug. 26, 1890	450,101	Gibbs, J. S	Apr. 7, 1891
435,030	Bremer, W. G	Aug. 26, 1890	450,159	Jones, A. W	Apr. 14, 1891
436,952	Whittingham, G. H	Sept. 23, 1890	451,997	Dow, W. E	May 12, 1891
437,363	Kalbach, H. M	Sept. 30, 1890	452,152	Whittingham, G. H	May 12, 1891
437,324	Bailey, E. E. and Galbraith, J	Sept. 30, 1890	452,875	Favor, L. B	May 26, 1891
438,305	Edison, T. A	Oct. 14, 1890	453,029	Warner, E. P	May 26, 1891
438,394	White, W. R	Oct. 14, 1890	453,111	Edson, W	May 26, 1891
438,721	Whittingham, G. H	Oct. 21, 1890	453,337	Davis, C. E	June 2, 1891
439,398	Goddard, C	Oct. 28, 1890	454,904	Fletcher, J. R	June 30, 1891

176. ELECTRIC LIGHTING.—79. CUT-OUTS—MECHANICAL.

No.	NAME.	DATE.	No.	NAME.	DATE.
431,118	Loomis, O. P.	July 1, 1890	442,800	Colby, E. A.	Dec. 16, 1890
431,516	Haines, A. Z. and Curry, J. H.	July 1, 1890	442,816	Morgan, R. A., jr.	Dec. 16, 1890
432,207	McLaughlin, J. F.	July 15, 1890	443,693	Wood, J. J.	Dec. 30, 1890
432,234	Frey, A. C.	July 15, 1890	444,374	Wilson, C. E.	Jan. 6, 1891
433,359	McLaughlin, J. F.	July 29, 1890	445,146	Keyes, B. B.	Jan. 20, 1891
433,883	Bergmann, S.	Aug. 5, 1890	445,310	Cutter, G. and Armstrong, C. G.	Jan. 27, 1891
434,151	Lange, P. and Shallenberger, O. B.	Aug. 12, 1890	445,362	Bergmann, S.	Jan. 27, 1891
434,152	Lange, P. and Shallenberger, O. B.	Aug. 12, 1890	445,752	Hoffman, J. W.	Feb. 3, 1891
434,899	Wilson, C. E.	Aug. 19, 1890	445,957	Lean, G. R.	Feb. 3, 1891
435,093	Herrick, C. H.	Aug. 26, 1890	446,031	Sperry, E. A.	Feb. 10, 1891
435,098	Johnston, A. L.	Aug. 26, 1890	446,623	Lean, G. R.	Feb. 17, 1891
435,132	Battershall, J. W.	Aug. 26, 1890	447,728	Hart, G. W.	Mar. 3, 1891
435,152	Norton, J. A.	Aug. 26, 1890	447,788	Orford, J. M. and English, J. C.	Mar. 10, 1891
435,424	Huntington, C. W.	Sept. 2, 1890	447,861	Bergmann, S.	Mar. 10, 1891
436,080	Gibbs, J. S. and Perkins, C. G.	Sept. 9, 1890	447,867	Clark, H. T.	Mar. 10, 1891
436,087	Perkins, C. G.	Sept. 9, 1890	448,338	Hand, G. D. and Sells, O. P.	Mar. 17, 1891
436,107	Perkins, C. G.	Sept. 9, 1890	448,431	Johnson, E. H.	Mar. 17, 1891
436,122	Crowell, H. H.	Sept. 9, 1890	448,698	Turner, D. B.	Mar. 24, 1891
437,352	Battershall, J. W.	Sept. 30, 1890	449,188	White, W.	Mar. 31, 1891
437,359	Hochhausen, W.	Sept. 30, 1890	449,282	Clark, H. T.	Mar. 31, 1891
437,513	Rae, F. B.	Sept. 30, 1890	449,301	Van Nuis, C. S.	Mar. 31, 1891
437,667	Stanley, L. T.	Sept. 30, 1890	449,348	Depp, O. J.	Mar. 31, 1891
438,118	Smith, W. F.	Oct. 7, 1890	450,551	Adam, F. and Knapik, J.	Apr. 14, 1891
438,167	Marcher, T.	Oct. 14, 1890	450,973	Norton, J. A.	Apr. 21, 1891
438,934	Miro, F.	Oct. 21, 1890	451,190	White, L. R. S.	Apr. 28, 1891
439,602	McGregor, J. A. K.	Oct. 28, 1890	451,267	Clark, H. T.	Apr. 28, 1891
440,303	Bush, A. R.	Nov. 11, 1890	451,268	Clark, H. T.	Apr. 28, 1891
440,614	Barberie, E. T. and Des Brisay, J.	Nov. 18, 1890	452,173	Andrews, J. D. F.	May 12, 1891
440,720	Pfluger, C. A.	Nov. 18, 1890	453,633	Furlong, L. F. and Tucker, F. O.	June 9, 1891
440,845	Herrick, C. H.	Nov. 18, 1890	453,888	Mitchell, W.	June 9, 1891
441,588	Schultz, G.	Nov. 25, 1890	454,087	Teague, F.	June 16, 1891
442,030	Fisher, F. E.	Dec. 2, 1890	454,995	Des Brisay, J.	June 30, 1891
442,588	Marshall, N.	Dec. 9, 1890			

176. ELECTRIC LIGHTING.—154. CUT-OUTS—MECHANICAL—OSCILLATING SNAP.

454,031	Clark, H. T.	June 16, 1891
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176. ELECTRIC LIGHTING.—105. LIGHTS—ARC, GRAVITY FEED, CLUTCH.

432,284	Russell, E. C.	July 15, 1890	445,136	Elkins, W. H.	Jan. 20, 1891
434,175	Cady, W. E.	Aug. 12, 1890	445,724	White, O. C.	Feb. 3, 1891
436,814	Wagniere, A.	Sept. 23, 1890	446,459	Mosher, J. A.	Feb. 17, 1891
440,662	Thomson, E. and Rice, E. W.	Nov. 18, 1890	446,668	Edison, T. A.	Feb. 17, 1891
440,663	Thomson, E. and Rice, E. W.	Nov. 18, 1890	447,383	Thomson, E.	Mar. 3, 1891
441,543	Enholm, O. A.	Nov. 25, 1890	447,767	Forgason, H. C.	Mar. 10, 1891
442,018	Crampton, T. P. C.	Dec. 2, 1890	449,715	Thomson, E. and Rice, E. W., jr.	Apr. 7, 1891
443,632	Heymann, E. and F. W.	Dec. 30, 1890	451,250	Waterhouse, A. G.	Apr. 28, 1891
443,633	Heymann, E. and F. W.	Dec. 30, 1890	453,583	Hochhausen, W.	June 2, 1891
444,154	Skinner, J.	Jan. 6, 1891	454,443	McAuley, J. E.	June 16, 1891
444,925	Thomson, E.	Jan. 20, 1891	455,071	Thompson, F. H.	June 30, 1891
444,977	Elkins, W. H.	Jan. 20, 1891			

176. ELECTRIC LIGHTING.—106. LIGHTS—ARC, GRAVITY FEED, GEAR-CLUTCH.

435,248	Rothlisberger, E.	Aug. 26, 1890	448,418	Easton, J. W.	Mar. 17, 1891
435,967	Graves, W. D.	Sept. 9, 1890	449,237	Ward, J. H. R.	Mar. 31, 1891
442,580	Henderson, W. B.	Dec. 9, 1890	449,238	Ward, J. H. R.	Mar. 31, 1891
442,617	Giles, J. E.	Dec. 16, 1890	451,101	Young, C. G.	Apr. 28, 1891
443,557	Whitecomb, A. W.	Dec. 30, 1890	451,189	Ward, J. H. R.	Apr. 28, 1891
444,104	Reppy, A. W.	Jan. 6, 1891	451,309	Scheibauer, R.	Apr. 28, 1891
444,472	Ward, B. B.	Jan. 13, 1891	453,693	Ells, J. W.	June 9, 1891
445,546	Easton, J. W.	Feb. 3, 1891	454,485	Lemp, H. and Wightman, M. J.	June 23, 1891
446,297	Schwarze, C. J.	Feb. 10, 1891			

176. ELECTRIC LIGHTING.—107. LIGHTS—ARC, POSITIVE FEED.

436,465	Tucker, C. A.	Sept. 16, 1890	446,108	Mather, R. H.	Feb. 10, 1891
437,767	Beach, R. H.	Oct. 7, 1890	446,109	Mather, R. H.	Feb. 10, 1891
440,604	Nutting, S. E.	Nov. 11, 1890	448,351	Kurmayer, K.	Mar. 17, 1891

176. ELECTRIC LIGHTING.—108. LIGHTS—ARC, POSITIVE FEED, CLUTCH.

No.	Name.	Date.	No.	Name.	Date.
439,904	Shubert, H. C.	Nov. 4, 1890	454,294	Rushmore, S. W.	June 16, 1891
454,253	Clarke, P.	June 16, 1891			

176. ELECTRIC LIGHTING.—109. LIGHTS—ARC, POSITIVE FEED, GEAR-CLUTCH.

437,502	Mosher, J. A.	Sept. 30, 1890	448,107	Atwood, La M. C.	Mar. 10, 1891
438,303	Edison, T. A.	Oct. 14, 1890	452,633	Buchanan, F.	May 15, 1891
439,011	Kent, J.	Oct. 21, 1890	454,295	Rushmore, S. W.	June 16, 1891
445,176	Hayes, J. A.	Jan. 27, 1891	455,087	Wright, G. W.	June 30, 1891
447,746	Buchanan, L. H.	Mar. 3, 1891			

176. ELECTRIC LIGHTING.—112. LIGHTS—ARC, SPECIAL FEATURES.

432,949	Lucas, A. H.	July 22, 1890	444,473	Ward, B. B.	Jan. 18, 1891
433,908	Parmly, S. P.	Aug. 5, 1890	446,549	Russell, E. C.	Feb. 17, 1891
435,116	Gardiner, R. M.	Aug. 26, 1890	448,084	Seibold, A. C.	Mar. 10, 1891
437,789	Nichols, A. E.	Oct. 7, 1890	449,153	Foster, H. A.	Mar. 31, 1891
437,901	Hazeltine, C. W.	Oct. 7, 1890	449,236	Ward, J. H. R.	Mar. 31, 1891
442,127	Lonnbury, J. A.	Dec. 9, 1890	450,581	Gatley, E. J.	Apr. 14, 1891
443,944	Manning, J. A.	Dec. 30, 1890	454,604	Sautter, G.	June 23, 1891
444,330	Chase, J.	Jan. 6, 1891	454,815	Smith, G. W.	June 23, 1891

176. ELECTRIC LIGHTING.—102. LIGHTS—FILAMENTS AND CARBONS.

432,710	Poland, L. N. P.	July 22, 1890	446,669	Edison, T. A.	Feb. 17, 1891
433,041	Saunderson, L.	July 29, 1890	447,702	Seibold, A. C.	Mar. 3, 1891
435,660	Hobby, V. M.	Sept. 2, 1890	448,914	Erlwein, G. and Heller, F. G. A.	Mar. 24, 1891
438,134	Apps, A.	Oct. 14, 1890	448,915	Erlwein, G.	Mar. 24, 1891
438,299	Edison, T. A.	Oct. 14, 1890	448,916	Erlwein, G.	Mar. 24, 1891
439,393	Edison, T. A.	Oct. 28, 1890	448,920	Heller, F. G. A.	Mar. 24, 1891
440,759	Lemp, H.	Nov. 18, 1890	450,304	Van Choate, S. F.	Apr. 14, 1891
444,471	Ward, B. B.	Jan. 13, 1891	454,262	Edison, T. A.	June 16, 1891
445,374	Keen, W. M. B. and Haarmann, W. F.	Jan. 27, 1891	454,873	Lawrence, W. H.	June 30, 1891
446,660	Burns, W. H.	Feb. 17, 1891	455,187	Erlwein, G.	June 30, 1891

176. ELECTRIC LIGHTING.—18. LIGHTS—INCANDESCENT.

431,776	Lean, G. R.	July 8, 1890	447,256	Nickerson, W. E. and Berenberg, A.	Feb. 24, 1891
434,159	Reinmann, A. L.	Aug. 12, 1890	447,702	Fessenden, R. A.	May 19, 1891
438,298	Edison, T. A.	Oct. 14, 1890	452,494	Flagg, I. J.	May 26, 1891
439,178	Pauthonier, C.	Oct. 28, 1890	452,780	Fessenden, R. A.	June 9, 1891
441,127	Bornholdt, A.	Nov. 25, 1890	453,742	Edison, T. A.	June 23, 1891
441,128	Bornholdt, A.	Nov. 25, 1890	454,558	Tesla, N.	June 30, 1891
444,530	Edison, T. A.	Jan. 13, 1891	455,069		
445,688	Bottome, T. D.	Feb. 3, 1891			

176. ELECTRIC LIGHTING.—113. LIGHTS—INCANDESCENT, SPECIAL FEATURES.

431,038	Dillon, L. W.	July 1, 1890	440,934	Tompkins, D. A.	Nov. 18, 1890
431,320	Bergmann, S.	July 1, 1890	441,877	Lewis, F.	Dec. 2, 1890
431,551	Bryant, W. C.	July 8, 1890	442,451	Paiste, H. T.	Dec. 9, 1890
431,721	Jacobs, S. J.	July 8, 1890	442,452	Paiste, H. T.	Dec. 9, 1890
432,965	Aldrich, F. H.	July 29, 1890	442,666	Gunn, J.	Dec. 16, 1890
433,687	Little, E. W. and Robb, J. T.	Aug. 5, 1890	442,635	Moore, J. B.	Dec. 16, 1890
433,915	Tregurtha, A. T.	Aug. 5, 1890	442,746	Bush, A. R.	Dec. 16, 1890
434,149	Klein, C. J.	Aug. 12, 1890	442,068	Cartwright, D. G. and Potter, J. S.	Dec. 16, 1890
434,917	Chassagne, P. J.	Aug. 26, 1890		Smith, T. C.	Jan. 13, 1891
434,925	Fitch, H. A.	Aug. 26, 1890	444,466	Potter, J. S.	Jan. 27, 1891
435,368	Robb, J. T.	Aug. 26, 1890	445,253	Scott, G. A.	Feb. 3, 1891
435,668	Roberts, J.	Sept. 2, 1890	445,822	Bergmann, S. and Klein, C. J.	Feb. 10, 1891
436,677	Thorne, J. and Burr, E. B.	Sept. 16, 1890	446,180	Martin, G. W.	Feb. 10, 1891
437,851	Brown, J. E.	Oct. 7, 1890	446,142	Shillinglaw, A.	Feb. 17, 1891
438,307	Edison, T. A.	Oct. 14, 1890	446,477	Wirt, H. C.	Feb. 17, 1891
438,891	Linn, S. H.	Oct. 21, 1890	446,826	Kintz, J.	Mar. 10, 1891
440,753	Bathurst, F.	Nov. 18, 1890	447,832		

176. ELECTRIC LIGHTING.—113. LIGHTS—INCANDESCENT, SPECIAL FEATURES—Continued.

No.	Name.	Date.	No.	Name.	Date.
448,164	Reinmann, C. F.	Mar. 10, 1891	451,149	Bates, P. S.	Apr. 28, 1891
448,468	Whitney, E. R.	Mar. 17, 1891	451,300	Drew, H. P.	Apr. 28, 1891
449,266	Lean, G. R.	Mar. 31, 1891	452,288	Savage, W. W.	May 12, 1891
449,767	Tregurtha, A. T.	Apr. 7, 1891	452,367	Fischer, J. G.	May 19, 1891
449,921	Tregurtha, A. T.	Apr. 7, 1891	453,041	Drysdale, W. A.	May 26, 1891
450,000	Carpenter, H. H.	Apr. 7, 1891	454,184	Pattison, R. and Desmond, D. G.	June 16, 1891
450,991	Cartwright, D. J.	Apr. 21, 1891			

176. ELECTRIC LIGHTING.—98. LIGHTS—SOCKETS AND KEYS.

431,681	Wood, J. J.	July 8, 1890	441,059	Collier, J. W.	Nov. 18, 1890
433,371	Schirmer, A.	July 29, 1890	442,287	Hunt, G. W. and Rich, A. E.	Dec. 9, 1890
433,698	Roebuck, T. G.	Aug. 5, 1890	443,404	Potter, J. S. and Cartwright, D. J.	Dec. 23, 1890
434,153	Lange, P. and Shallenberger, O. B.	Aug. 12, 1890	443,530	Lieb, C. A.	Dec. 30, 1890
435,024	Rockwell, F. C.	Aug. 26, 1890	443,562	Bergmanu, S.	Dec. 30, 1890
435,029	Bremer, W. G.	Aug. 26, 1890	443,746	Dempster, J. T.	Dec. 30, 1890
435,047	Smith, W. F.	Aug. 26, 1890	444,567	Lean, G. R.	Jan. 13, 1891
435,049	Smith, W. F.	Aug. 26, 1890	445,363	Bergmann, S.	Jan. 27, 1891
435,223	Heisler, C.	Aug. 26, 1890	445,364	Bergmann, S.	Jan. 27, 1891
435,578	Bryant, W. C.	Sept. 2, 1890	446,995	Orford, J. M.	Feb. 24, 1891
435,931	Herrick, C. H.	Sept. 9, 1890	447,315	Gutman, H. J.	Mar. 3, 1891
436,316	Potter, J. S., Cartwright, D. J. and Keyes, B. B.	Sept. 9, 1890	448,167	Tregurtha, A. T.	Mar. 10, 1891
436,387	Swift, H. E.	Sept. 16, 1890	448,365	Pratt, R. D.	Mar. 17, 1891
436,412	Goold, F. D'A.	Sept. 16, 1890	448,679	Silaudeanu, F.	Mar. 24, 1891
438,310	Edison, T. A.	Oct. 14, 1890	449,604	Weller, F. A.	Mar. 31, 1891
438,431	Collier, J. W.	Oct. 14, 1890	450,605	Alton, G. H.	Apr. 21, 1891
439,047	Wollin, W. F. and Werline, E. H.	Oct. 21, 1890	450,628	Lange, P.	Apr. 21, 1891
439,304	Phillips, J. O.	Oct. 28, 1890	451,656	Deacon, S. and Wightman, M. J.	May 5, 1891
439,363	Swan, A.	Oct. 28, 1890	451,798	Balsley, C. H. and Porter, E. M.	May 3, 1891
439,364	Swan, A.	Oct. 28, 1890	452,305	Keen, W. M. B. and Haar- mann, W. F.	May 12, 1891
439,365	Swan, A.	Oct. 28, 1890	452,306	Keen, W. M. B.	May 12, 1891
439,366	Swan, A.	Oct. 28, 1890	453,455	White, L. R. S.	June 2, 1891
439,367	Swan, A.	Oct. 28, 1890	455,287	Keyes, B. B.	June 30, 1891

176. ELECTRIC LIGHTING.—19. SYSTEMS.

432,745	Cooke, E. T. and Mackay, W. H.	July 22, 1890	447,482	Ward, B. B.	Mar. 3, 1891
437,516	Sawyer, R. F.	Sept. 30, 1890	447,486	Bennett, E. C. and Freeze, E. C.	Mar. 3, 1891
438,590	Woods, G. T.	Oct. 14, 1890	447,920	Tesla, N.	Mar. 10, 1891
438,326	Richardson, G. W.	Oct. 14, 1890	448,279	Thomson, E.	Mar. 17, 1891
438,619	Giles, J. E.	Oct. 21, 1890	449,044	Johnson, E. H.	Mar. 24, 1891
438,814	Kerstein, M.	Oct. 21, 1890	449,780	Müller, F. and Greene, J. G.	Apr. 7, 1891
439,389	Edison, T. A.	Oct. 28, 1890	450,626	Kerstein, M.	Apr. 21, 1891
439,392	Edison, T. A.	Oct. 28, 1890	451,377	Gould, R. H.	Apr. 28, 1891
440,326	Richards, W. S.	Nov. 11, 1890	453,046	Hall, G. L.	May 26, 1891
442,575	Eckert, W. H. and Gregory, W. H.	Dec. 9, 1890	453,248	Smith, T. C.	June 2, 1891
443,157	Wyckoff, A. B.	Dec. 23, 1890	453,281	Young, C. G.	June 2, 1891
443,527	Jones, F. W.	Dec. 30, 1890	453,349	Sawyer, R. F.	June 2, 1891
443,606	Johnson, E. H.	Dec. 30, 1890	453,597	La Roche, F. A.	June 2, 1891
443,727	Ongley, C. E.	Dec. 30, 1890	453,871	Stovell, O. H.	June 9, 1891
445,954	Jordau, L. F.	Feb. 3, 1891	454,038	Fanning, J. J.	June 16, 1891
446,298	Schwarze, C. J.	Feb. 10, 1891	454,622	Tesla, N.	June 23, 1891
447,177	Edwards, T. M.	Feb. 24, 1891	454,650	Herzberg, I. and A.	June 23, 1891

176. ELECTRIC LIGHTING.—129. SYSTEMS—CAR.

449,474	Gibbs, G.	Mar. 31, 1891	451,732	Jones, B. J.	May 5, 1891
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176. ELECTRIC LIGHTING.—130. SYSTEMS—SECONDARY BATTERY.

438,145	Currie, S. C. C.	Oct. 14, 1890	446,666	Edison, T. A.	Feb. 17, 1891
439,390	Edison, T. A.	Oct. 28, 1890			

176. ELECTRIC LIGHTING.—131. SYSTEMS—TEST.

No.	NAME.	DATE.	No.	NAME.	DATE.
453,323	Ebert, W. H.				June 2, 1891

177. ELECTRIC SIGNALING.—1. ALARMS.

431,271	MacFarlane, J.	July 1, 1890	445,306	Woolcott, C. M. and Wilmot, A. E.	Jan. 27, 1891
431,885	Focer, D.	July 8, 1890	445,495	Brown, A. H.	Jan. 27, 1891
437,369	Tschira, A.	Sept. 30, 1890	449,411	Hannah, G.	Mar. 31, 1891
438,598	Ashton, F. M.	Oct. 21, 1890	450,466	Ludlow, S. W.	Apr. 14, 1891

177. ELECTRIC SIGNALING.—2. ALARMS—BURGLAR.

431,597	Lehy, G. B.	July 8, 1890	440,015	Pierce, F.	Nov. 4, 1890
436,030	Wilder, E. R.	Sept. 9, 1890	440,115	Pierce, F.	Nov. 4, 1890
438,127	Ackermann, W. J.	Oct. 7, 1890	453,466	Darling, E. A.	June 2, 1891
438,234	Geary, J.	Oct. 14, 1890	455,005	Palmer, D. A.	June 30, 1891

177. ELECTRIC SIGNALING.—3. ANNUNCIATORS.

433,584	Vining, C. J.	Aug. 5, 1890	447,558	Cram, W. E.	Mar. 3, 1891
435,440	Lnthe, J. W. and Jeavons, A. E.	Sept. 2, 1890	448,125	Crabtree, L. T.	Mar. 10, 1891
437,798	Ransom, G. F.	Oct. 7, 1890	448,169	Warner, E. P.	Mar. 10, 1891
438,390	Stanley, A. F.	Oct. 14, 1890	449,690	Newman, A.	Apr. 7, 1891
441,157	Hale, C. A.	Nov. 25, 1890	450,390	Varley, R., jr.	Apr. 14, 1891
441,304	Holtzer, C. W.	Nov. 25, 1890	450,558	Cox, W.	Apr. 14, 1891
442,029	Fisher, F. E.	Dec. 2, 1890	450,615	Delany, P. B.	Apr. 21, 1891
443,834	Luthe, J. W. and Jeavons, A. E.	Dec. 30, 1890	452,165	Crane, M. G. and Cole, F. W.	May 12, 1891
444,245	Hormel, A.	Jan. 6, 1891	453,416	Pinolet, L. M.	June 2, 1891
445,796	Cole, F. W.	Feb. 3, 1891	454,018	Bacorn, F. W.	June 16, 1891
445,991	Gaynor, T. F.	Feb. 10, 1891	454,924	Wood, F. B.	June 30, 1891
446,641	Elfering, J. H.	Feb. 17, 1891	455,016	Harte, W. F. and Gerold, C. A.	June 30, 1891
447,195	Miller, J. E. A.	Feb. 24, 1891	455,138	Wass, D. D.	June 30, 1891

177. ELECTRIC SIGNALING.—139. ANNUNCIATORS—DROP.

450,453	Gruschow, R. H.	Apr. 14, 1891	452,585	Shivler, H. C.	May 19, 1891
451,226	Ricketts, J. L.	Apr. 28, 1891			

177. ELECTRIC SIGNALING.—7. BELLS.

431,181	Delany, P. B.	July 1, 1890	449,832	Stanley, A. F.	Apr. 7, 1891
436,410	Geary, J.	Sept. 16, 1890	449,866	Slater, W. W.	Apr. 7, 1891
436,979	Jirau, C. G.	Sept. 23, 1890	450,319	Pragnell, G. E.	Apr. 14, 1891
439,614	Vanghn, B. E.	Oct. 28, 1890	451,121	Gaynor, T. F.	Apr. 28, 1891
442,473	Beers, C. B. and Tuttle, W. B.	Dec. 9, 1890	451,414	Storer, A.	Apr. 28, 1891
444,600	Patterson, W. R.	Jan. 13, 1891	452,166	Craue, M. G.	May 12, 1891
445,295	Wollensak, J. F.	Jan. 27, 1891	452,931	Cole, F. W.	May 26, 1891
449,206	Crane, M. G.	Mar. 31, 1891	452,932	Cole, F. W.	May 26, 1891
449,302	Varley, R., jr.	Mar. 31, 1891			

177. ELECTRIC SIGNALING.—26. INDICATORS.

432,694	Chappell, G. H.	July 22, 1890	442,882	Haight, H. J.	Dec. 16, 1890
438,167	Glover, J. B.	July 29, 1890	442,883	Haight, H. J.	Dec. 16, 1890
433,307	Robinson, W. E.	July 29, 1890	444,452	Mott, S. D.	Jan. 13, 1891
435,964	Compton, M. D.	Sept. 9, 1890	444,453	Mott, S. D.	Jan. 13, 1891
439,941	Goldstone, L.	Nov. 4, 1890	444,454	Mott, S. D.	Jan. 13, 1891
440,208	Vanderhoef, G. N.	Nov. 11, 1890	445,773	Ely, E. S.	Feb. 3, 1891
442,104	Conley, M.	Dec. 9, 1890	448,378	Soden, F. H.	Mar. 17, 1891
442,610	Casper, L.	Dec. 16, 1890	453,696	Hadlock, W. E.	June 9, 1891
442,880	Haight, H. J.	Dec. 16, 1890	454,867	Haight, H. J.	June 30, 1891
442,881	Haight, H. J.	Dec. 16, 1890			

177. ELECTRIC SIGNALING.—38. RAILWAY SIGNALS.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
431,408	Snee, W.	July 1, 1890	441,031	Sheldon, W. D.	Nov. 18, 1890
431,671	McCartney, J. H.	July 8, 1890	441,033	Sheldon, W. D.	Nov. 18, 1890
433,959	Paul, W. C. and Kleinstercher, A. D.	Aug. 12, 1890	441,034	Sheldon, W. D.	Nov. 18, 1890
			441,044	Waddell, W. H.	Nov. 18, 1890
435,097	Jacobs, S. J.	Aug. 26, 1890	441,703	Riggs, J. W.	Dec. 2, 1890
435,105	Stitzel, F.	Aug. 26, 1890	441,773	Owen, R. O.	Dec. 2, 1890
435,259	Thew, G.	Aug. 26, 1890	442,339	Schreuder, J. G.	Dec. 9, 1890
435,340	Wilson, W. H.	Aug. 26, 1890	442,074	Depp, O. J. and Munn, S. J.	Dec. 16, 1890
435,482	Conly, M. L.	Sept. 2, 1890	443,149	Powell, S. L.	Dec. 23, 1890
435,516	Perls, T.	Sept. 2, 1890	443,167	Powell, S. L.	Dec. 23, 1890
435,558	Desant, W. F. Z.	Sept. 2, 1890	443,814	Berue, A. W.	Dec. 30, 1890
435,801	Cortese, M.	Sept. 2, 1890	444,700	Hall, A. W.	Jan. 13, 1891
436,025	Tower, G. A.	Sept. 9, 1890	445,106	Wiley, E. C.	Jan. 20, 1891
436,154	Schroen, F. C.	Sept. 9, 1890	445,564	Loy, I. W. and O'Toole, R.	Feb. 3, 1891
436,168	Burt, E. M.	Sept. 9, 1890	445,653	Stitzel, F. and Weinedel, C.	Feb. 3, 1891
436,371	Morse, P. C. and Winton, H. D.	Sept. 16, 1890	446,159	Westinghouse, G., Jr., and Schreuder, J. G.	Feb. 10, 1891
436,777	Davidson, B. R.	Sept. 23, 1890			
437,848	Powell, S. L.	Sept. 30, 1890	446,313	Wiley, E. C.	Feb. 10, 1891
438,084	McElroy, D. S.	Oct. 7, 1890	446,403	Conly, M. S.	Feb. 10, 1891
439,409	Lattig, J. W.	Oct. 28, 1890	446,546	Cook, W. S. and M. C.	Feb. 17, 1891
439,906	Sprague, W. B. and Kellogg, C. W.	Nov. 4, 1890	446,917	Harvey, E. T.	Feb. 24, 1891
440,502	Ramsey, J., Jr., and Weir, F. C.	Nov. 11, 1890	447,906	Rosenfield, W. W.	Mar. 10, 1891
440,503	Ramsey, J., Jr., and Weir, F. C.	Nov. 11, 1890	448,315	Berne, A. W.	Mar. 17, 1891
440,881	Loomis, T. F.	Nov. 18, 1890	450,646	Taylor, J. D.	Apr. 21, 1891
440,925	Riggs, J. W.	Nov. 18, 1890	451,157	Jackson, U. S.	Apr. 28, 1891
440,926	Riggs, J. W.	Nov. 18, 1890	452,281	O'Neil, J. C.	May 12, 1891
440,927	Riggs, J. W.	Nov. 18, 1890	454,245	Ziegler, J. O.	June 16, 1891
441,030	Sheldon, W. D.	Nov. 18, 1890			

177. ELECTRIC SIGNALING.—147. RAILWAY—BLOCK.

454,266	Stevens, W. and Hovey, H. J.				June 30, 1891
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177. ELECTRIC SIGNALING.—146. RAILWAY—BLOCK SYSTEMS.

448,031	Harrison, E. L.	Mar. 10, 1891	449,731	Carlton, J. A. and Johnston, H. L.	Apr. 7, 1891
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177. ELECTRIC SIGNALING.—149. RAILWAY—CAB, SECTIONAL RAIL.

448,856	Graff, E. D.	Mar. 24, 1891	452,874	Deming, E.	May 26, 1891
449,639	Tompkins, S.	Mar. 31, 1891	453,097	Walter, W. C.	May 26, 1891
451,999	Walter, W. C.	May 12, 1891	453,104	Branch, J. R.	May 26, 1891
452,072	Doucet, S. J.	May 12, 1891	453,578	Chapman, N. S.	June 2, 1891
452,515	Brown, F. H.	May 19, 1891	454,344	Guiley, A. H. R.	June 16, 1891
452,872	Deming, E.	May 26, 1891	454,625	Lenahan, F. P.	June 23, 1891
452,873	Deming, E.	May 26, 1891			

177. ELECTRIC SIGNALING.—150. RAILWAY—SECTIONAL RAIL.

448,751	Kinsman, F. E.	Mar. 24, 1891	453,447	Luby, W. A.	June 2, 1891
449,990	Wilhelm, C. W.	Apr. 7, 1891			

177. ELECTRIC SIGNALING.—39. RECORDERS.

432,645	Richards, J. E.	July 22, 1890	442,126	Locke, S. D.	Dec. 9, 1890
433,445	Clark, J. C.	Aug. 5, 1890	442,849	Bellussich, J.	Dec. 16, 1890
439,295	Fraser, W. J.	Oct. 28, 1890	443,790	Ongley, C. E.	Dec. 30, 1890

178. TELEGRAPHY.—46. AUTOMATIC.

431,793	Anderson, F.	July 8, 1890	445,715	Etheridge, H.	Feb. 3, 1891
431,794	Anderson, F.	July 8, 1890	445,716	Etheridge, H.	Feb. 3, 1891
435,292	Etheridge, H.	Aug. 26, 1890	449,655	Anderson, F.	Apr. 7, 1891
437,307	Kunhardt, D.	Sept. 30, 1890			

178. TELEGRAPHY.—45. CIRCUITS AND SYSTEMS.

No.	NAME.	DATE.	No.	NAME.	DATE.
432,724	Carr, C. P.	July 22, 1890	440,164	Keeley, D. H.	Nov. 11, 1890
433,082	Jones, F. W.	July 29, 1890	440,199	Roscbrugh, A. M.	Nov. 11, 1890
434,835	Pearson, P.	Aug. 19, 1890	441,847	Jones, F. W.	Dec. 2, 1890
435,679	Breed, G.	Sept. 2, 1890	442,808	Hummcl, A. G. and Graham, F. A.	Dec. 16, 1890
437,422	Edison, T. A.	Sept. 30, 1890	448,779	Edison, T. A.	Mar. 24, 1891

178. TELEGRAPHY.—47. DIAL.

437,859	Kelley, D. and Parkhurst, M. C.				Oct. 7, 1890
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178. TELEGRAPHY.—48. DUPLEX.

435,639	Edison, T. A.	Sept. 2, 1890	452,913	Edison, T. A.	May 26, 1891
435,851	Muirhead, A.	Sept. 2, 1890			

178. TELEGRAPHY.—49. DYNAMO.

437,572	Rae, F. B.				Sept. 30, 1890
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178. TELEGRAPHY.—50. FIRE.

431,141	Gale, G. F.	July 1, 1890	446,199	Wood, F. B.	Feb. 10, 1891
431,598	Lehy, G. B.	July 8, 1890	447,045	Ginochio, N. B.	Feb. 24, 1891
432,618	Holcombe, A. G.	July 22, 1890	447,058	Noyes, B. J.	Feb. 24, 1891
432,619	Holcombe, A. G.	July 22, 1890	447,059	Noyes, B. J.	Feb. 24, 1891
433,421	Robbins, A. C.	July 29, 1890	447,060	Noyes, B. J.	Feb. 24, 1891
433,455	Noyes, B. J.	Aug. 5, 1890	447,061	Noyes, B. J.	Feb. 24, 1891
433,486	Noyes, B. J.	Aug. 5, 1890	447,062	Noyes, B. J.	Feb. 24, 1891
433,504	Wilson, J. C. and Noyes, B. J.	Aug. 5, 1890	447,074	Kirnan, W. H.	Feb. 24, 1891
433,505	Wilson, J. C.	Aug. 5, 1890	447,869	Cole, F. W.	Mar. 10, 1891
434,922	Decrow, W. E.	Aug. 26, 1890	447,894	McCann, W. R. and Creider, S. S.	Mar. 10, 1891
436,640	Singer, W. F.	Sept. 16, 1890	448,398	Wilson, J. C.	Mar. 17, 1891
436,747	Stover, J. W.	Sept. 16, 1890	448,399	Wilson, J. C.	Mar. 17, 1891
438,361	Plumb, C.	Oct. 14, 1890	448,400	Wilson, J. C.	Mar. 17, 1891
440,563	Hale, G. C. and Barrett, A.	Nov. 11, 1890	448,684	Singer, W. F.	Mar. 24, 1891
442,383	Merrifield, P. V.	Dec. 9, 1890	449,575	Cole, F. W.	Mar. 31, 1891
443,182	Ruddick, J. J.	Dec. 23, 1890	449,576	Cole, F. W.	Mar. 31, 1891
443,478	Feary, F. T. and Speicher, J.	Dec. 23, 1890	450,182	Noyes, B. J. and Eaton, H. F.	Apr. 14, 1891
443,725	Ongley, C. E.	Dec. 30, 1890	450,239	Kirnan, W. H.	Apr. 14, 1891
444,144	Wilson, J. C.	Jan. 6, 1891	451,639	O'Donnell, M. A.	May 5, 1891
445,545	Crane, M. G.	Feb. 3, 1891	451,512	Noyes, B. J.	May 5, 1891
445,795	Cole, F. W.	Feb. 3, 1891	451,689	Davis, M. G.	May 5, 1891
445,798	Cole, F. W.	Feb. 3, 1891	451,902	Stover, J. W.	May 5, 1891
445,799	Cole, F. W.	Feb. 3, 1891	452,771	Chasc, H. A.	May 26, 1891
445,800	Cole, F. W.	Feb. 3, 1891	453,982	Milliken, G. F.	June 9, 1891
445,801	Cole, F. W.	Feb. 3, 1891	454,974	Martin, M.	June 30, 1891
445,802	Cole, F. W.	Feb. 3, 1891			

178. TELEGRAPHY.—103. FIRE, ALARMS AND EXTINGUISHERS.

431,979	Jacobs, H. E.	July 8, 1890	466,200	Broichgans, S.	Feb. 10, 1891
436,961	Upton, F. R. and Dibble, F. J.	Sept. 23, 1890	447,998	Adams, G. W.	Mar. 10, 1891
437,668	Young, J.	Sept. 30, 1890	449,829	Slocum, E. L.	Apr. 7, 1891
440,013	Chatfield, L. O.	Nov. 4, 1890	450,245	Ludlow, S. W.	Apr. 14, 1891
442,385	Neu, G. S.	Dec. 9, 1890	452,506	Klumpp, J. F., jr.	May 19, 1891
443,724	Ongley, C. E.	Dec. 30, 1890	454,973	Martin, M.	June 30, 1891

178. TELEGRAPHY.—160. FIRE, AUTOMATIC.

452,735	Shaffer, C. H.	May 19, 1891	454,746	Leonard, B. W.	June 23, 1891
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178. TELEGRAPHY.—163. FIRE, NON-INTERFERING.

453,993	Cole, F. W.				June 9, 1891
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178. TELEGRAPHY.—51. MULTIPLEX.

No.	Name.	Date.	No.	Name.	Date.
431,651	Delany, P. B.	July 8, 1890	442,267	Ives, E. B.	Dec. 9, 1890
437,930	Miner, W. M.	Oct. 7, 1890	449,897	Brown, R. G.	Apr. 7, 1891
440,165	Keeley, D. H.	Nov. 11, 1890	446,424	Brown, R. G.	Feb. 17, 1891
440,766	Delany, P. B.	Nov. 18, 1890	446,425	Brown, R. G.	Feb. 17, 1891
440,767	Delany, P. B.	Nov. 18, 1890	453,601	Edison, T. A.	June 2, 1891
440,768	Delany, P. B.	Nov. 18, 1890	454,630	Toye, B. B.	June 23, 1891

178. TELEGRAPHY.—54. PRINTING.

431,784	Scott, G. B.	July 8, 1890	443,135	Essick, S. V. B.	Dec. 23, 1890
431,987	McCoy, A. T.	July 8, 1890	443,136	Essick, S. V. B.	Dec. 23, 1890
432,453	Taylor, W. W.	July 15, 1890	443,726	Ongley, C. E.	Dec. 30, 1890
432,490	Khotinsky, A.	July 15, 1890	450,228	Fisk, P. H.	Apr. 14, 1891
434,261	Foote, T. M.	Aug. 12, 1890	450,630	Linville, S. R. and Hettmansperger, L. F.	Apr. 21, 1891
434,880	Odell, J. B.	Aug. 19, 1890	450,631	Linville, S. R.	Apr. 21, 1891
434,881	Odell, J. B.	Aug. 19, 1890	451,951	Pope, E.	May 12, 1891
436,740	Odell, J. B.	Sept. 16, 1890	454,884	Sedgwick, F.	June 30, 1891
442,497	Taylor, W. W.	Dec. 9, 1890	455,294	Bates, D. H. and Van Hoevenbergh, H.	June 30, 1891
443,111	Rae, F. B.	Dec. 23, 1890			
443,134	Essick, S. V. B.	Dec. 23, 1890			

178. TELEGRAPHY.—142. PRINTING, WHEEL.

455,075	Van Hoevenbergh, H.				June 30, 1891
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178. TELEGRAPHY.—56. RAILWAY-CAR.

433,216	Reppy, A. W.	July 29, 1890	447,943	Cook, W. S. and M. C.	Mar. 10, 1891
440,508	Sargent, F.	Nov. 11, 1890	449,672	Finn, H. J. and Garner, J. A.	Apr. 7, 1891
442,347	Arnold, C. R.	Dec. 9, 1890	452,871	Deming, E.	May 26, 1891
444,819	Cregier, N. B.	Jan. 20, 1891			

178. TELEGRAPHY.—63. REED.

439,017	Langdon-Davies, C.	Oct. 21, 1890	453,261	Langdon-Davies, C.	June 2, 1891
447,198	Parker, J. A.	Feb. 24, 1891			

178. TELEGRAPHY.—10. CIRCUIT-CLOSERS.

434,596	Hathaway, P.	Aug. 19, 1890	450,292	Johnston, W. C., jr.	Apr. 14, 1891
435,866	Streichenberg, G. H.	Sept. 2, 1890	450,706	Tinkham, L. B.	Apr. 21, 1891
438,344	Chaize, N. and J.	Oct. 14, 1890	452,397	Straus, M.	May 19, 1891
440,813	Von Kohler, H.	Nov. 18, 1890	454,226	Pieper, O. H. and Watson, F. M.	June 16, 1891
447,748	Cleveland, L. W.	Mar. 3, 1891	454,816	Ward, J. H. R.	June 23, 1891
448,044	Iske, A.	Mar. 10, 1891	455,086	Wright, G. W.	June 30, 1891

178. TELEGRAPHY.—128. CIRCUIT-CLOSERS, THERMAL.

439,441	Summerskill, C. W.	Oct. 28, 1890	450,425	Reinemann, A.	Apr. 14, 1891
441,622	Shaffer, C. H.	Nov. 25, 1890	450,896	Sims, J. C.	Apr. 21, 1891
445,931	Douse, T. R.	Feb. 3, 1891	451,548	Zagelmeyer, L.	May 5, 1891
446,846	Barron, A. M.	Feb. 24, 1891	453,723	Braun, M. M.	June 9, 1891
450,260	Singer, W. F.	Apr. 14, 1891			

178. TELEGRAPHY.—29. KEYS.

433,835	Van Deusen, J. B.	Aug. 5, 1890	438,530	Crockett, C. H. and Dedrick, L. C.	Oct. 14, 1890
437,510	Purdy, A. F.	Sept. 30, 1890	439,959	Kohrn, W. A. J.	Nov. 4, 1890

178. TELEGRAPHY.—30. LIGHTNING ARRESTERS.

No.	Name.	Date.	No.	Name.	Date.
433,430	Wurts, A. and Baldwin, O. H.	July 29, 1890	440,654	Rice, E. W., jr	Nov. 18, 1890
433,682	Jenks, W. J.	Aug. 5, 1890	441,999	Wood, J. J.	Dec. 2, 1890
434,163	Stilwell, L. B.	Aug. 12, 1890	444,678	Thomson, E.	Jan. 13, 1891
434,166	Wurts, A.	Aug. 12, 1890	449,903	Easton, J. W.	Apr. 7, 1891
434,167	Wurts, A.	Aug. 12, 1890	451,521	Rice, E. W., jr.	May 5, 1891
434,170	Wurts, A.	Aug. 12, 1890	454,496	Rae, F. B.	June 23, 1891
434,371	Wurts, A.	Aug. 12, 1890	454,671	Thomson, E.	June 23, 1891
436,238	Hoop, G. D.	Sept. 9, 1890	454,672	Thomson, E.	June 23, 1891
437,362	Jenks, W. J.	Sept. 30, 1890	454,673	Thomson, E.	June 23, 1891
437,397	Hudie, R.	Sept. 30, 1890	455,223	Mansfield, F. and Wason, C. W.	June 30, 1891
438,788	White, A. C.	Oct. 21, 1890			

178. TELEGRAPHY.—41. RELAYS AND SOUNDERS.

432,098	Treber, J. M.	July 15, 1890	445,442	Doggett, J.	Jan. 27, 1891
434,585	Edison, T. A.	Aug. 19, 1890	450,272	Wickes, R. O.	Apr. 14, 1891
438,233	Geary, J.	Oct. 14, 1890	454,338	Essick, S. V. B.	June 16, 1891
442,338	Schreuder, J. G.	Dec. 9, 1890			

178. TELEGRAPHY.—42. REPEATERS.

445,797	Cole, F. W.	Feb. 3, 1891	451,449	Booth, A. C.	May 5, 1891
449,574	Cole, F. W.	Mar. 31, 1891			

178. TELEGRAPHY.—69. TRANSMITTERS.

443,381	Smith, S. W.	Dec. 23, 1890	449,174	Robbins, H. G.	Mar. 31, 1891
447,166	Smith, S. W.	Feb. 24, 1891	452,026	Kintner, C. J.	May 12, 1891

179. TELEPHONY.—82. ANTI-INDUCTION DEVICES.

442,139	Rosebrugh, A. M.	Dec. 9, 1890	447,858	Wright, T. F. and Wilson, E. G.	Mar. 10, 1891
442,856	Carty, J. J.	Dec. 16, 1890			

179. TELEPHONY.—81. TELEPHONES—CONDUCTORS, ANTI-INDUCTIVE.

437,311	McClner, C. E.	Sept. 30, 1890	454,890	Thomson, E.	June 30, 1891
445,234	Reilly, J. C.	Jan. 27, 1891			

179. TELEPHONY.—57. TELEPHONES—CALLS.

431,088	Vincent, C. H.	July 1, 1890	445,538	Burrell, S. J. and Markland, W. H.	Feb. 3, 1891
433,619	Cutler, J. L.	Aug. 5, 1890	446,614	Rice, D. H.	Feb. 17, 1891
435,893	Hatch, A. A.	Sept. 2, 1890	446,712	Rice, D. H.	Feb. 17, 1891
435,894	Hatch, A. A.	Sept. 2, 1890	446,732	Currier, J. B. and Rice, D. H.	Feb. 17, 1891
438,304	Edison, T. A.	Oct. 14, 1890	450,645	Taylor, J. D.	Apr. 21, 1891
440,898	McManman, J. A.	Nov. 18, 1890	454,504	Sundeen, A. D., Molander, S. B., Anderson, G. W. and Carlsen, A. M.	June 23, 1891
444,780	Lawrence, G. R.	Jan. 13, 1891			

179. TELEPHONY.—143. TELEPHONES—CALLS, STEP-BY-STEP.

454,643	Foote, G. L. and Moore, W. C.				June 23, 1891
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179. TELEPHONY.—58. TELEPHONES—DETAILS.

437,602	Kaiser, F. P.	Sept. 30, 1890	450,358	Marcus, W. N.	Apr. 14, 1891
445,721	Stevens, B. A.	Feb. 3, 1891	452,775	Dickson, C. T.	May 26, 1891
446,188	McDonough, J. W.	Feb. 10, 1891	453,722	Baker, E. E.	June 9, 1891
449,180	Schatz, A. E.	Mar. 31, 1891			

179. TELEPHONY.—59. TELEPHONES—ELECTRIC.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
433,120	Field, S. D -----	July 29, 1890	438,818	McDonough, J. W -----	Oct. 21, 1890
433,981	Davis, E -----	Aug. 12, 1890	440,096	Bergmann, S -----	Nov. 4, 1890
435,138	Lockwood, T. D -----	Sept. 2, 1890	443,494	Bergmann, S -----	Dec. 30, 1890
436,334	Burnley, W -----	Sept. 16, 1890	443,526	Johnson, E. H -----	Dec. 30, 1890
436,335	Burnley, W -----	Sept. 16, 1890	445,475	Noriega, E -----	Jan. 27, 1891
436,513	Wiegand, S. L -----	Sept. 16, 1890	448,726	Oeýan, T -----	Mar. 24, 1891
438,306	Edison, T. A. and Gilliland, E. T	Oct. 14, 1890	450,426	Roulez, J. E -----	Apr. 14, 1891
438,631	MacDonald, A. J -----	Oct. 21, 1890	452,636	Fitzimmons, P -----	May 19, 1891
438,632	MacDonald, A. J -----	Oct. 21, 1890	452,758	Müller, A. C. F -----	May 19, 1891
438,784	Stut, J. C. H -----	Oct. 21, 1890	453,581	Fitzimmons, P -----	June 2, 1891

179. TELEPHONY.—60. TELEPHONES—MAGNETIC.

436,512	Wiegand, S. L -----	Sept. 16, 1890	447,194	Mercadier, E. J. P -----	Feb. 24, 1891
438,828	Richards, W. L -----	Oct. 21, 1890	448,329	Field, S. D -----	Mar. 17, 1891
441,396	Capps, F. L -----	Nov. 25, 1890	449,254	Humans, W -----	Mar. 31, 1891
443,493	Bergmaun, S -----	Dec. 30, 1890	451,634	Corwiu, W. S -----	May 5, 1891

179. TELEPHONY.—77. TELEPHONES—RELAYS AND REPEATERS.

436,514	Wiegand, S. L -----	Sept. 16, 1890	448,153	Ludwig, J. C -----	Mar. 10, 1891
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179. TELEPHONY.—100. TELEPHONES—SUPPORTS.

431,810	Hess, E. C -----	July 8, 1890	440,091	Tinning, F. T. and W. K. S -----	Nov. 4, 1890
432,883	Lebenberg, S -----	July 22, 1890	450,359	Marcus, W. N -----	Apr. 14, 1891
436,717	Moore, J. T -----	Sept. 16, 1890	453,435	Tinning, F. T. and W. K. S -----	June 2, 1891
437,927	Hughes, F. C -----	Oct. 7, 1890	454,138	Mercadier, E. J. P -----	June 16, 1891

179. TELEPHONY.—85. TELEPHONES—SWITCH-BOARDS.

442,996	O'Brien, J -----	Dec. 16, 1890	453,000	Goodridge, W. M -----	May 26, 1891
449,685	Lyon, J. B -----	Apr. 7, 1891	453,863	Hibbard, A. S -----	June 9, 1891
451,397	Chase, H. A -----	Apr. 28, 1891	454,584	Viles, F. T. and Young, N -----	June 23, 1891
452,921	Lyon, J. B -----	May 26, 1891			

179. TELEPHONY.—64. TELEPHONES—SYSTEMS.

431,531	Scely, J. A -----	July 1, 1890	442,342	Vaughn, J. W -----	Dec. 9, 1890
431,962	Barton, E. M -----	July 8, 1890	443,145	McQuarrie, J. L -----	Dec. 23, 1890
432,547	McCoy, J. A -----	July 22, 1890	444,105	Farnham, I. H -----	Jan. 6, 1891
433,046	Scribner, C. E -----	July 29, 1890	447,220	White, A. C -----	Feb. 24, 1891
433,047	Scribner, C. E -----	July 29, 1890	447,426	Gould, C. C -----	Mar. 3, 1891
433,424	Scribner, C. E -----	July 29, 1890	447,485	Beach, F. G -----	Mar. 3, 1891
433,636	Warner, E. P -----	Aug. 5, 1890	447,768	Francis, J. C -----	Mar. 10, 1891
437,010	Bentley, E. M -----	Sept. 23, 1890	448,322	Digeon, L -----	Mar. 17, 1891
437,012	Bentley, E. M -----	Sept. 23, 1890	449,106	Carty, J. J -----	Mar. 31, 1891
437,986	Graham, A -----	Oct. 7, 1890	449,679	Jacques, W. W -----	Apr. 7, 1891
438,982	Beach, F. G -----	Oct. 21, 1890	451,143	Villiers-Stead, F. and Hedgeman, E. R. -----	Apr. 28, 1891
440,118	Root, H. C -----	Nov. 4, 1890			
442,143	Scribner, C. E -----	Dec. 9, 1890	453,483	Jacques, W. W -----	June 2, 1891
442,144	Scribner, C. E -----	Dec. 9, 1890	454,016	O'Connell, J. J -----	June 9, 1891
442,145	Scribner, C. E -----	Dec. 9, 1890	454,503	Sundeen, A. D., Molander, S. B., Anderson, G. W. and Carlson, A. M. -----	June 23, 1891
442,146	Scribner, C. E -----	Dec. 9, 1890			

179. TELEPHONY.—101. TELEPHONES—SYSTEMS, AUTOMATIC.

435,295	Ford, W. H -----	Aug. 26, 1890	447,918	Strowger, A. B -----	Mar. 10, 1891
442,734	Smith, J. R. and Childs, W -----	Dec. 16, 1890			

179. TELEPHONY.—138. TELEPHONES—SYSTEMS, TOLL.

451,922	Farnham, I. H -----	May 12, 1891	452,785	Hamrick, H. M -----	May 26, 1891
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191. ELECTRIC RAILWAYS.—1. CONDUCTOR SUPPORTS AND INSULATORS.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
431,414	Thomson, E.	July 1, 1890	445,908	Sharp, E. P.	Feb. 3, 1891
431,973	Herty, J. T.	July 8, 1890	446,483	Thomson, E.	Feb. 17, 1891
433,896	Hallbauer, A. L. and Hiller, E. L.	Aug. 5, 1890	446,985	Mackloskie, C. H. and Baker, W. E.	Feb. 24, 1891
434,961	Thomson, E.	Aug. 26, 1890	447,208	Short, S. H.	Feb. 24, 1891
435,262	Van Depoele, C. J.	Aug. 26, 1890	447,495	Short, S. H.	Mar. 3, 1891
435,505	Lieb, C. A.	Sept. 2, 1890	448,246	Lieb, C. A.	Mar. 17, 1891
435,870	Thomson, E.	Sept. 2, 1890	448,703	Wirt, H. C.	Mar. 24, 1891
437,533	Van Depoele, C. J.	Sept. 30, 1890	449,943	McCarthy, L.	Apr. 7, 1891
438,211	Wirt, H. C.	Oct. 14, 1890	450,163	Lieb, C. A.	Apr. 14, 1891
441,312	Marks, W. B., Lauer, J. G. and Ralston, R. R.	Nov. 25, 1890	450,164	Lieb, C. A.	Apr. 14, 1891
441,800	Ritfield, E. H.	Dec. 2, 1890	450,242	Lieb, C. A.	Apr. 14, 1891
442,232	Mansfield, F.	Dec. 9, 1890	450,294	Lieb, C. A. and Leavens, E.	Apr. 14, 1891
442,446	Luscomb, H. H.	Dec. 9, 1890	450,587	Lieb, C. A. and Leavens, E.	Apr. 14, 1891
443,005	Ramsey, W. M.	Dec. 16, 1890	452,017	Lieb, C. A.	May 12, 1891
443,174	Emmet, W. Le R.	Dec. 23, 1890	452,523	Jennings, B.	May 19, 1891
443,508	Emmet, W. Le R.	Dec. 30, 1890	452,645	Jennings, B.	May 19, 1891
444,005	Mason, D.	Jan. 6, 1891	453,070	Wheeler, G. K.	May 26, 1891
444,006	Mason, D.	Jan. 6, 1891	453,100	Baker, W. E. and Macloskie, C. H.	May 26, 1891
445,008	Vogler, W.	Jan. 20, 1891	453,326	Idé, A. L.	June 2, 1891
445,103	Vogler, W.	Jan. 20, 1891	454,486	Lieb, C. A.	June 23, 1891
445,142	Hughes, J. S.	Jan. 20, 1891	454,487	Lieb, C. A.	June 23, 1891
445,594	Foster, C. and Bevis, W. H.	Feb. 3, 1891	455,107	Munsie, J. F.	June 30, 1891

191. ELECTRIC RAILWAYS.—2. ELECTRIC LOCOMOTIVES.

431,213	McDougall, W. M.	July 1, 1890	439,584	Wagemann, E.	Oct. 28, 1890
431,256	Drown, F. E.	July 1, 1890	440,189	Peckham, E.	Nov. 11, 1890
431,649	Currie, S. C. C.	July 8, 1890	440,686	Baker, I. F.	Nov. 18, 1890
431,720	Hunter, R. M.	July 8, 1890	440,689	Belding, W. S.	Nov. 18, 1890
431,823	Sprague, F. J.	July 8, 1890	440,717	Mower, S. E.	Nov. 18, 1890
432,136	Hunter, R. M.	July 15, 1890	440,718	Mower, S. E.	Nov. 18, 1890
432,142	Knight, W. H.	July 15, 1890	441,213	Wheless, M.	Nov. 25, 1890
432,208	McLaughlin, J. F.	July 15, 1890	441,330	Schleschinger, W. M.	Nov. 25, 1890
432,237	Henderson, J. W.	July 15, 1890	441,565	Hunter, R. M.	Nov. 25, 1890
432,345	Van Depoele, C. J.	July 15, 1890	441,771	Mansfield, F.	Dec. 2, 1890
432,501	Wagemann, E.	July 15, 1890	442,019	Van Depoele, C. J.	Dec. 16, 1890
432,623	Hunter, R. M.	July 22, 1890	442,459	Schmid, A.	Dec. 9, 1890
432,644	Rice, E. W., jr.	July 22, 1890	443,227	Riker, A. L.	Dec. 23, 1890
432,753	Hunter, R. M.	July 22, 1890	443,671	Eickemeyer, R.	Dec. 30, 1890
433,170	Hunter, R. M.	July 29, 1890	443,677	Hunter, R. M.	Dec. 30, 1890
433,180	Parcelle, A. L.	July 29, 1890	444,110	Randall, B. L.	Jan. 6, 1891
433,181	Parcelle, A. L.	July 29, 1890	444,479	Bentley, E. M.	Jan. 13, 1891
433,210	Odell, J. B.	July 29, 1890	444,512	Waddell, M. and Entz, J. B.	Jan. 13, 1891
433,401	Foote, T. M.	July 29, 1890	444,539	McCarthy, L. A.	Jan. 13, 1891
433,402	Foote, T. M.	July 29, 1890	444,922	Rice, E. W., jr.	Jan. 20, 1891
433,403	Hunter, R. M.	July 29, 1890	445,051	Faries, R. P.	Jan. 20, 1891
433,903	Mower, S. E.	Aug. 5, 1890	445,144	Hunter, R. M.	Jan. 20, 1891
433,904	Mower, S. E. and Spencer, G. J.	Aug. 5, 1890	445,583	Zipernowsky, C.	Feb. 3, 1891
434,034	Short, S. H.	Aug. 12, 1890	445,654	Short, S. H.	Feb. 3, 1891
434,147	Hunter, R. M.	Aug. 12, 1890	446,245	Baldwin, G. R.	Feb. 10, 1891
434,148	Hunter, R. M.	Aug. 12, 1890	446,667	Edison, T. A.	Feb. 17, 1891
434,363	Sperry, E. A.	Aug. 12, 1890	446,821	Boynton, E. M.	Feb. 17, 1891
434,391	Hunter, R. M.	Aug. 12, 1890	447,255	Mower, S. E.	Feb. 24, 1891
434,589	Edison, T. A.	Aug. 19, 1890	448,199	Blackwell, F. O.	Mar. 17, 1891
434,827	Gorton, A.	Aug. 19, 1890	448,260	Rice, E. W., jr.	Mar. 17, 1891
434,882	Ott, J. F.	Aug. 19, 1890	448,561	Van Depoele, C. J.	Mar. 17, 1891
434,949	Possons, N. S.	Aug. 26, 1890	448,562	Van Depoele, C. J.	Mar. 17, 1891
434,993	Patton, W. H.	Aug. 26, 1890	448,563	Van Depoele, C. J.	Mar. 17, 1891
435,640	Blades, H. H.	Sept. 2, 1890	448,840	Short, S. H.	Mar. 24, 1891
435,641	Blades, H. H.	Sept. 2, 1890	448,910	Conradson, C. M.	Mar. 24, 1891
435,642	Dewey, M. W.	Sept. 2, 1890	448,927	Peacock, R. and Lange, H. L.	Mar. 24, 1891
436,728	Wagemann, E.	Sept. 16, 1890	449,196	Blackwell, F. O.	Mar. 31, 1891
436,439	Robinson, W.	Sept. 16, 1890	449,197	Blackwell, F. O.	Mar. 31, 1891
436,440	Robinson, W.	Sept. 16, 1890	449,709	Short, S. H.	Apr. 7, 1891
436,742	Robinson, W.	Sept. 16, 1890	449,752	Brown, H. P.	Apr. 7, 1891
436,743	Robinson, W.	Sept. 16, 1890	450,542	Van Depoele, C. J.	Apr. 14, 1891
436,779	Goss, E. W.	Sept. 23, 1890	450,652	Westinghouse, G., jr.	Apr. 21, 1891
437,158	Hunter, R. M.	Sept. 23, 1890	450,742	Johnson, E. H.	Apr. 21, 1891
437,210	Leber, L. H.	Sept. 30, 1890	450,846	Stephenson, J.	Apr. 21, 1891
437,535	Van Depoele, C. J.	Sept. 30, 1890	450,970	Mower, S. E.	Apr. 21, 1891
437,661	Rae, F. B.	Sept. 30, 1890	451,155	Hunter, R. M.	Apr. 28, 1891
439,345	Dean, F. W.	Oct. 28, 1890	451,491	Knight, W. H.	May 5, 1891

191. ELECTRIC RAILWAYS.—2. ELECTRIC LOCOMOTIVES—Continued.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
451,980	Short, S. H	May 12, 1891	452,622	Short, S. H	May 19, 1891
451,981	Short, S. H	May 12, 1891	452,992	Dobbie, R. S.	May 26, 1891
452,005	Short, S. H	May 12, 1891	453,167	Eickemeyer, R.	May 26, 1891
452,035	Short, S. H	May 12, 1891	453,216	Shawhan, J. F.	June 2, 1891
452,036	Short, S. H	May 12, 1891	454,008	Short, S. H	June 9, 1891
452,176	Christiansen, J.	May 12, 1891	454,020	Bentley, E. M.	June 16, 1891
452,422	Blackwell, F. O.	May 19, 1891	454,021	Bentley, E. M.	June 16, 1891
452,423	Blackwell, F. O.	May 19, 1891	454,888	Stephenson, J.	June 30, 1891
452,621	Short, S. H	May 19, 1891			

191. ELECTRIC RAILWAYS.—3. SYSTEMS.

431,711	Short, S. H	July 8, 1890	442,365	Dewey, M. W.	Dee. 9, 1890
432,095	Swart, W. D.	July 15, 1890	444,740	Bentley, E. M.	Jan. 13, 1891
434,687	Van Depoele, C. J.	Aug. 19, 1890	445,479	Short, S. H.	Jan. 27, 1891
440,976	Van Depoele, C. J.	Nov. 18, 1890	448,328	Entz, J. B.	Mar. 17, 1891
441,828	Dewey, M. W.	Dec. 2, 1890	448,598	Wheeler, S. S. and Bradley, C. S.	Mar. 17, 1891
442,140	Saboldt, F. W.	Dee. 9, 1890	450,193	Robinson, C. A.	Apr. 14, 1891

191. ELECTRIC RAILWAYS.—4. SYSTEMS—BATTERY.

433,360	McLaughlin, J. F.	July 29, 1890	439,395	Fleischer, R. J.	Oct. 28, 1890
433,851	Chamberlain, J. C.	Aug. 5, 1890	440,362	Nourse, J. K. P.	Nov. 11, 1890
434,579	Corning, F. G.	Aug. 19, 1890	441,305	Hunter, R. M.	Nov. 25, 1890
434,580	Corning, F. G.	Aug. 19, 1890	442,744	Stephenson, J.	Dec. 16, 1890
434,581	Corning, F. G.	Aug. 19, 1890	446,613	Rae, F. B.	Feb. 17, 1891
434,582	Corning, F. G.	Aug. 19, 1890	446,817	Hunter, R. M.	Feb. 17, 1891
434,863	Corning, F. G.	Aug. 19, 1890	447,230	Chamberlain, J. C.	Feb. 24, 1891
438,192	Shawhan, J. F.	Oct. 14, 1890	455,019	Ingraham, A. A.	June 30, 1891
439,237	Corning, F. G.	Oct. 28, 1890			

191. ELECTRIC RAILWAYS.—5. SYSTEMS—CONDUIT.

431,519	Hunter, R. M.	July 1, 1890	441,212	Wheless, M.	Nov. 25, 1890
431,633	Wehrle, J. H.	July 8, 1890	441,221	Wheatley, S. E.	Nov. 25, 1890
431,634	Wehrle, J. H.	July 8, 1890	441,258	Seibert, N.	Nov. 25, 1890
432,204	McLaughlin, J. F.	July 15, 1890	441,571	Libbey, H. W.	Nov. 25, 1890
432,416	Lynch, J.	July 15, 1890	441,572	Libbey, H. W.	Nov. 25, 1890
432,571	Seibert, N.	July 22, 1890	441,764	Jones, H.	Dec. 2, 1890
432,670	Jennings, B.	July 22, 1890	444,687	Blackwell, J. L.	Jan. 13, 1891
432,944	Jennings, B.	July 22, 1890	445,634	Bentley, E. M.	Feb. 3, 1891
433,409	Keithley, H. R.	July 29, 1890	445,674	Hunter, R. M.	Feb. 3, 1891
433,544	Thobe, A. A. and Embley, W.	Aug. 5, 1890	446,376	Bentley, E. M.	Feb. 10, 1891
434,030	Hunter, R. M.	Aug. 12, 1890	446,417	Bentley, E. M.	Feb. 17, 1891
434,036	Wehrle, J. H.	Aug. 12, 1890	446,419	Bentley, E. M.	Feb. 17, 1891
434,389	Hunter, R. M.	Aug. 12, 1890	446,420	Bentley, E. M.	Feb. 17, 1891
434,390	Hunter, R. M.	Aug. 12, 1890	446,475	Seibert, N.	Feb. 17, 1891
435,536	Curtis, H. U.	Sept. 2, 1890	447,332	Knight, W. H.	Mar. 3, 1891
435,662	Hunter, R. M.	Sept. 2, 1890	447,338	Medbery, H. J.	Mar. 3, 1891
435,879	Hunter, R. M.	Sept. 2, 1890	448,461	Stewart, R. A.	Mar. 17, 1891
436,923	Libbey, H. W.	Sept. 23, 1890	448,838	Poeock, F. A.	Mar. 24, 1891
437,720	Reed, E. M.	Oct. 7, 1890	449,797	Hunter, R. M.	Apr. 7, 1891
437,953	Wehrle, J. H.	Oct. 7, 1890	451,326	Jennings, B.	Apr. 28, 1891
439,069	Hunter, R. M.	Oct. 21, 1890	451,692	Hunter, R. M.	May 5, 1891
439,262	Westerland, L.	Oct. 28, 1890	451,815	Ford, W. H.	May 5, 1891
439,597	Hunter, R. M.	Oct. 28, 1890	452,160	Blackwell, F. O.	May 12, 1891
440,596	Hunter, R. M.	Nov. 11, 1890	452,611	Mitchell, E. W.	May 19, 1891
440,597	Hunter, R. M.	Nov. 11, 1890	452,920	Hunter, R. M.	May 26, 1891
440,780	Verstraete, E.	Nov. 18, 1890	454,177	Miller, J. J.	June 16, 1891
440,781	Verstraete, E.	Nov. 18, 1890	454,178	Miller, J. J.	June 16, 1891
440,906	Trott, S.	Nov. 18, 1890	454,022	Bentley, E. M.	June 16, 1891
441,210	Wheless, M.	Nov. 23, 1890	454,023	Blackwell, F. O.	June 16, 1891

191. ELECTRIC RAILWAYS.—6. SYSTEMS—CLOSED CONDUIT.

432,673	Mansfield, F.	July 22, 1890	435,263	Van Depoele, C. J.	Aug. 26, 1890
432,674	Mansfield, F.	July 22, 1890	435,447	Perkins, L. M.	Sept. 2, 1890
434,410	Van Depoele, C. J.	Aug. 12, 1890	435,486	Elliott, W. R.	Sept. 2, 1890

191. ELECTRIC RAILWAYS.—6. SYSTEMS—CLOSED CONDUIT—Continued.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
435,487	Elliott, W. R.	Sept. 2, 1890	443,451	Hunter, R. M.	Dec. 23, 1890
437,358	Harding, C. K.	Sept. 30, 1890	450,172	Mansfield, F.	Apr. 14, 1891
440,822	Bremer, W. G.	Nov. 18, 1890	450,173	Mansfield, F.	Apr. 14, 1891
441,214	Wheless, M.	Nov. 25, 1890	451,637	Harding, C. K.	May 5, 1891
441,216	Wheless, M.	Nov. 25, 1890	451,691	Holland, J.	May 5, 1891
443,084	Bentley, E. M.	Dec. 23, 1890			

191. ELECTRIC RAILWAYS.—7. SYSTEMS—CIRCUITS, MULTIPLE ARC.

431,977	Hunter, R. M.	July 8, 1890	441,217	Wheless, M.	Nov. 25, 1890
432,049	Hunter, R. M.	July 15, 1890	441,218	Wheless, M.	Nov. 25, 1890
433,918	Wheless, M.	Aug. 5, 1890	441,219	Wheless, M.	Nov. 25, 1890
434,275	Hunter, R. M.	Aug. 12, 1890	441,220	Wheatley, S. E.	Nov. 25, 1890
435,471	Wheless, M.	Sept. 2, 1890	442,407	Wightman, M. J.	Dec. 9, 1890
438,262	Wheless, M.	Oct. 14, 1890	446,834	Hunter, R. M.	Feb. 17, 1891
438,293	Sprague, F. J.	Oct. 14, 1890	448,523	Hunter, R. M.	Mar. 17, 1891
439,070	Hunter, R. M.	Oct. 21, 1890	448,778	Edison, T. A.	Mar. 24, 1891
440,213	Wheless, M.	Nov. 11, 1890	449,227	Morse, S. F. B.	Mar. 31, 1891
441,211	Wheless, M.	Nov. 25, 1890	451,154	Hunter, R. M.	Apr. 28, 1891

191. ELECTRIC RAILWAYS.—8. SYSTEMS—CIRCUITS, SERIES.

439,428	Richter, C.	Oct. 28, 1890	448,653	Hunter, R. M.	Mar. 24, 1891
439,867	Dewey, M. W.	Nov. 4, 1890			

191. ELECTRIC RAILWAYS.—9. SYSTEMS—CONVERTER.

431,482	Ries, E. E.	July 1, 1890	434,686	Van Depoele, C. J.	Aug. 19, 1890
434,684	Van Depoele, C. J.	Aug. 19, 1890	447,215	Van Depoele, C. J.	Feb. 24, 1891
434,685	Van Depoele, C. J.	Aug. 19, 1890			

191. ELECTRIC RAILWAYS.—10. SYSTEMS—DOUBLE.

452,099	Dewey, M. W.				May 12, 1891
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191. ELECTRIC RAILWAYS.—11. SYSTEMS—OVERHEAD.

431,092	Wheeler, F.	July 1, 1890	446,833	Hunter, R. M.	Feb. 17, 1891
431,093	Wheeler, F.	July 1, 1890	447,283	Hunter, R. M.	Feb. 24, 1891
431,094	Wheeler, F.	July 1, 1890	447,885	Luce, C. J.	Mar. 10, 1891
431,095	Wheeler, F.	July 1, 1890	448,505	Crow, B. F.	Mar. 17, 1891
432,581	Thomson, E.	July 22, 1890	448,711	Farnham, I. H.	Mar. 24, 1891
436,425	Libbey, H. W.	Sept. 16, 1890	448,831	Eickemeyer, R.	Mar. 24, 1891
436,944	Wright, W. H. S.	Sept. 23, 1890	449,792	Bentley, E. M.	Apr. 7, 1891
437,613	Murray, J. W.	Sept. 30, 1890	450,074	Hunter, R. M.	Apr. 7, 1891
438,847	Hunter, R. M.	Oct. 21, 1890	450,586	Hunter, R. M.	Apr. 14, 1891
438,894	Marcy, H. W.	Oct. 21, 1890	450,613	Culver, F. S.	Apr. 21, 1891
439,662	Hunter, R. M.	Nov. 4, 1890	450,687	Thomson, E.	Apr. 21, 1891
439,746	Emmet, W. Le R.	Nov. 4, 1890	451,211	Macrae, R.	Apr. 28, 1891
440,595	Hunter, R. M.	Nov. 11, 1890	451,696	Kuehnle, J.	May 5, 1891
442,623	Hopson, R. C.	Dec. 16, 1890	452,576	Kuehnle, J.	May 19, 1891
442,081	Jones, J.	Dec. 16, 1890	453,710	Jones, J.	June 9, 1891
445,409	Hunter, R. M.	Jan. 27, 1891	454,881	Scott, G. J.	June 30, 1891
445,515	Sprague, F. J. and Branth, J. F. S.	Jan. 27, 1891	454,903	Fletcher, J. R.	June 30, 1891
445,952	Hunter, R. M.	Feb. 3, 1891	455,233	Munsie, J. F.	June 30, 1891
446,418	Bentley, E. M.	Feb. 17, 1891	455,234	Munsie, J. F.	June 30, 1891

191. ELECTRIC RAILWAYS.—12. SYSTEMS—OVERHEAD, TROLLEYS.

431,684	Andersen, J. M.	July 8, 1890	433,611	Bain, F.	Aug. 5, 1890
432,063	Miller, W. C.	July 15, 1890	433,839	Wheeler, F. C.	Aug. 5, 1890
432,752	Hunter, R. M.	July 22, 1890	434,276	Hunter, R. M.	Aug. 12, 1890
433,407	Hunter, R. M.	July 29, 1890	434,682	Stevens, W. L. and Wescott, E. J.	Aug. 19, 1890
433,425	Sprague, F. J.	July 29, 1890	435,011	Cairns, S. D.	Aug. 26, 1890

191. ELECTRIC RAILWAYS.—12. SYSTEMS—OVERHEAD, TROLLEYS—Continued.

No.	Name.	Date.	No.	Name.	Date.
435,166	Atwood, L.	Aug. 26, 1890	444,566	Hunter, R. M.	Jan. 13, 1891
435,559	Duggan, J. A.	Sept. 2, 1890	444,871	Baker, L. F. and Booth, R.	Jan. 20, 1891
436,571	Ainslie, D. A.	Sept. 16, 1890	444,893	Blades, H. H.	Jan. 20, 1891
436,874	Hoppes, J. J.	Sept. 23, 1890	446,428	Cahoon, J. B. and Baker, I. F.	Feb. 17, 1891
437,534	Van Depoele, C. J.	Sept. 30, 1890	446,931	Short, S. H.	Feb. 24, 1891
437,961	Baker, I. F.	Oct. 7, 1890	447,632	Cavert, W. J. and Wiswall, W. P.	Mar. 3, 1891
438,219	Andersen, J. M.	Oct. 14, 1890	448,172	Wightman, M. J.	Mar. 10, 1891
438,359	Pfingst, L.	Oct. 14, 1890	448,173	Wightman, M. J.	Mar. 10, 1891
438,404	Chadbourne, A. H.	Oct. 14, 1890	448,618	Hunter, R. M.	Mar. 17, 1891
439,092	Bardwell, A. F.	Oct. 28, 1890	449,226	Mitchell, A. W.	Mar. 31, 1891
439,182	Pfingst, L.	Oct. 28, 1890	449,490	Mitchell, A. W.	Mar. 31, 1891
439,192	Rowell, B. C. and Galloupe, F. E.	Oct. 28, 1890	449,569	Parsons, B. J.	Mar. 31, 1891
439,308	Slocum, G. S.	Oct. 28, 1890	449,886	Robinson, F. and Lander, P. W. J.	Apr. 7, 1891
439,916	Whittlesey, J. T.	Nov. 4, 1890	450,184	Palmer, A.	Apr. 14, 1891
440,106	Hoyt, L. S.	Nov. 4, 1890	450,153	Hickley, A. S.	Apr. 14, 1891
440,584	Brooks, H. H.	Nov. 11, 1890	450,489	Jackson, W. E., jr.	Apr. 14, 1891
440,789	Cushing, R. D.	Nov. 18, 1890	450,683	Short, S. H.	Apr. 21, 1891
440,814	Lieb, C. A.	Nov. 18, 1890	450,853	Webber, H. A.	Apr. 21, 1891
440,665	Thomson, E.	Nov. 18, 1890	451,402	Hunter, R. M.	Apr. 28, 1891
441,122	Basset, N. C.	Nov. 25, 1890	452,186	Jones, R. M.	May 12, 1891
441,123	Basset, N. C.	Nov. 25, 1890	452,542	Cook, D. N.	May 19, 1891
441,753	Emmett, W. Le R.	Dec. 2, 1890	453,093	Sullivan, J.	May 26, 1891
442,002	Adams, A. W.	Dec. 2, 1890	454,437	Hunter, R. M.	June 16, 1891
443,004	Ramsey, W. M.	Dec. 16, 1890	454,522	Larkin, G. H. and Tompkins, J.	June 23, 1891
443,452	Hunter, R. M.	Dec. 23, 1890	454,532	Verstraete, E.	June 23, 1891
444,397	Hunter, R. M.	Jan. 6, 1891	454,536	Duncan, W.	June 23, 1891
444,447	Lieb, C. A.	Jan. 13, 1891			

191. ELECTRIC RAILWAYS.—13. SYSTEMS—TELPHER.

434,871	Hunter, R. M.	Aug. 19, 1890	453,031	Baker, E.	May 26, 1891
452,741	Weems, D. G.	May 19, 1891			

191. ELECTRIC RAILWAYS.—14. SYSTEMS—TELPHER, SOLENOID.

433,381	Williams, J. T.	July 29, 1890	438,870	Todd, A. E.	Oct. 21, 1890
436,281	Williams, J. T.	Sept. 9, 1890	441,250	Manaydier, J. E.	Nov. 25, 1890
438,564	Swift, H. E.	Oct. 14, 1890			

2. APPAREL.—4. CUTTING.

431,999	Salisbury, W. S.				July 8, 1890
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14. BRIDGES.—3. GIRDERS AND COLUMNS.

435,872	Verstraete, E.	Sept. 2, 1890	438,036	Verstraete, E.	Oct. 7, 1890
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14. BRIDGES.—10. TOWERS.

434,639	Maxwell, D.				Aug. 19, 1890
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18. CAOUTCHOUC AND MINOR PLASTICS.—11. INSULATING MATERIALS.

431,104	Cheever, J. H.	July 1, 1890	438,698	Menuez, A. E.	Oct. 21, 1890
433,215	Rabinowicz, I.	July 29, 1890	439,796	Bottome, T. D.	Nov. 4, 1890
433,893	Fottrell, J.	Aug. 5, 1890	440,391	Blaisdell, F. E.	Nov. 11, 1890
436,733	Easton, J. W.	Sept. 16, 1890	452,760	Salathé, F.	May 19, 1891
437,044	Rawson, F. L.	Sept. 23, 1890	452,765	Salathé, F.	May 19, 1891
438,309	Edison, T. A.	Oct. 14, 1890	454,547	Sperry, A. W.	June 23, 1891
438,311	Enholm, O. A.	Oct. 14, 1890	454,548	Sperry, A. W.	June 23, 1891
438,313	Enholm, O. A.	Oct. 14, 1890			

18. CAOUTCHOUC AND MINOR PLASTICS.—7. MISCELLANEOUS COMPOSITIONS.

No.	NAME.	DATE.	No.	NAME.	DATE.
446,502	Wright, E. G -----	Feb. 17, 1891	452,599	Dooley, T. B -----	May 19, 1891
446,873	Madden, A. F -----	Feb. 24, 1891			

18. CAOUTCHOUC AND MINOR PLASTICS.—9. VULCANIZING APPARATUS.

440,395	Cobb, H. B -----	Nov. 11, 1890
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20. CARPENTRY.—24. SLIDING DOORS.

447,505	Coburn, L -----	Mar. 3, 1891
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22. METAL FOUNDING.—39. IN MOLDED MOLDS, WHEELS.

445,319	Lenhart, P. F -----	Jan. 27, 1891
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23. CHEMICALS.—27. ELECTROLYSIS.

442,332	Roberts, I. L -----	Dec. 9, 1890	447,585	Schroeder, G. G -----	Mar. 3, 1891
442,334	Roberts, I. L -----	Dec. 9, 1890	448,541	Parker, T. and Robinson, A. E -----	Mar. 17, 1891
442,396	Roberts, I. L -----	Dec. 9, 1890	450,103	Le Sueur, E. A -----	Apr. 7, 1891
442,594	Roberts, I. L -----	Dec. 9, 1890	450,104	Le Sueur, E. A -----	Apr. 7, 1891

25. CLAY AND POTTERY.—8. DRAIN TILES.

451,941	La Point, T. T., Flanagan, J. H. and Thompson, C. A -----	May 12, 1891
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28. CORDAGE.—14. WARPING.

432,040	Haslam, J. P -----	July 15, 1890
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28. CORDAGE.—31. WARP, STOP MOTION.

443,674	Goldschmidt, P -----	Dec. 30, 1890
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39. FENCES.—36. RAILWAY GATES—AUTOMATIC MAST.

443,729	Seele, J. W -----	Dec. 30, 1890
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39. FENCES.—38. RAILWAY GATES—ELECTRIC.

438,620	Gillette, H -----	Oct. 21, 1890	443,732	Steele, J. W -----	Dec. 30, 1890
441,032	Sheldon, W. D -----	Nov. 18, 1890	444,825	Gillette, H -----	Jan. 20, 1891
442,114	Gillette, H -----	Dec. 9, 1890			

40. ADVERTISING.—2. AUTOMATIC DEVICES.

437,905	Levi, M -----	Oct. 7, 1890	453,190	Jackson, S. D. L -----	June 2, 1891
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40. ADVERTISING.—14. SIGNS.

432,968	Bayley, C. H -----	July 29, 1890	452,514	Beck, C -----	May 19, 1891
437,226	McEntee, J. A -----	Sept. 30, 1890			

41. FINE ARTS.—8. ENGRAVING MACHINES.

No.	NAME.	DATE.	No.	NAME.	DATE.
431,578	Guerrant, G. M.	July 8, 1890	448,404	Amstutz, N. S.	Mar. 17, 1891

41. FINE ARTS.—17. THEATER APPLIANCES.

442,796	Burgess, N.	Dec. 16, 1890	443,991	Ellis, S. R.	Jan. 6, 1891
442,797	Burgess, N.	Dec. 16, 1890			

42. FIRE ARMS.—25. BALL TRAPS.

433,554	True, L. L.				Aug. 5, 1890
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42. FIRE ARMS.—12. LOCKS.

439,055	Von Dérschau, A.				Oct. 21, 1890
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46. GAMES AND TOYS.—45. TOYS—FIGURE WHEELED.

454,570	Moore, G. R.				June 23, 1891
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48. GAS.—25. CARBURETORS—GAS AND AIR MIXERS.

451,037	Frost, E. J.				Apr. 28, 1891
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49. GLASS.—7. MOLDS.

453,875	Atterbury, T. B.				June 9, 1891
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49. GLASS.—10. PLATE AND WINDOW.

433,254	Niles, H. B.				July 29, 1890
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51. GRINDING AND POLISHING.—4. METAL—CURVED SURFACES.

443,270	Cummings, G. P.	Dec. 23, 1890	448,540	McGenniss, D.	Mar. 17, 1891
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53. HARDWARE MAKING.—9. MISCELLANEOUS.

431,617	Pollak, C. F.	July 8, 1890	451,885	Wheeler, S. S.	May 5, 1891
435,264	Van Depoele, C. J.	Aug. 26, 1890			

57. HOISTING.—34. BLOCK AND TACKLE.

442,415	Brady, T. H.				Dec. 9, 1890
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58. HOROLOGY.—28. CLOCKS—ELECTRIC.

437,203	Hunter, G. E. and Corthell, F. H.	Sept. 30, 1890	446,801	Van de Plancke, D. and G.	Feb. 17, 1891
437,204	Hunter, G. E. and Corthell, F. H.	Sept. 30, 1890	447,105	Dudley, W. J.	Feb. 24, 1891
437,205	Hunter, G. E. and Corthell, F. H.	Sept. 30, 1890	448,294	Chase, H. A.	Mar. 17, 1891
437,206	Hunter, G. E. and Corthell, F. H.	Sept. 30, 1890	448,998	Scales, W. S.	Mar. 24, 1891
438,314	Gipperich, A.	Oct. 14, 1890	448,999	Scales, W. S.	Mar. 24, 1891
439,338	Dyson, J. H.	Nov. 4, 1890	452,299	Wiseman, A. G.	May 12, 1891
440,241	Schlegel, H. T.	Nov. 11, 1890	452,392	Schmidt, F. M.	May 19, 1891
440,441	Schwartz, F.	Nov. 11, 1890	452,424	Church, A. M.	May 19, 1891
443,291	Mayrhofer, C.	Dec. 23, 1890	452,955	Prentiss, H. S.	May 26, 1891
444,433	Hammer, E. G.	Jan. 13, 1891	452,956	Prentiss, H. S.	May 26, 1891
444,482	Bradley, W. W. and Packer, W. N.	Jan. 13, 1891	455,041	Von Hefner-Altenbeck, F.	June 30, 1891
445,023	Lefebvre, E.	Jan. 20, 1891	455,055	Ramsay, W.	June 30, 1891
445,073	Packer, W. N. and Bradley, W. W.	Jan. 20, 1891			

58. HOROLOGY.—29. CLOCKS—PNEUMATIC.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
438,767	Popp, V.				Oct. 21, 1890

58. HOROLOGY.—15. TIME ALARMS.

435,213	Deane, W. H.	Aug. 26, 1890	445,341	Striemer, A.	Jan. 27, 1891
438,653	Striemer, A.	Oct. 21, 1890	448,325	Edgerton, E. M.	Mar. 17, 1891
441,908	Tiedemann, M. W.	Dec. 2, 1890	448,712	Gallagher, J. J.	Mar. 24, 1891

58. HOROLOGY.—16. TIME CHECKS.

435,185	Park, H. S.	Aug. 26, 1890	445,113	Hörenz, F.	Jan. 20, 1891
435,582	Fuller, F. L.	Sept. 2, 1890	451,666	Gee, E. C.	May 5, 1891
443,435	Fuller, I. D.	Dec. 23, 1890	452,894	Bundy, W. L.	May 26, 1891
443,787	Ongley, C. E.	Dec. 30, 1890	453,230	Bundy, W. L.	June 2, 1891
443,788	Ongley, C. E.	Dec. 30, 1890			

58. HOROLOGY.—26. WATCH STOPS.

450,966	Matthews, F. A.				Apr. 21, 1891
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67. LAMPS AND GAS FITTINGS.—5. DROP LIGHTS AND HANGERS.

434,038	White, A. B.	Aug. 12, 1890	444,424	Dawes, A.	Jan. 13, 1891
437,883	Brady, T. H.	Oct. 7, 1890	445,549	Fitch, G.	Feb. 3, 1891
438,779	Newton, S. O. and M. A.	Oct. 21, 1890	446,037	Titus, J. E.	Feb. 10, 1891
439,023	Matson, D. B.	Oct. 21, 1890	448,865	Smith, C. G.	Mar. 24, 1891
441,248	Lynch, T. J.	Nov. 25, 1890	449,902	Easton, J. W.	Apr. 7, 1891
442,472	Batchelder, G. L.	Dec. 9, 1890	451,108	Danals, C. A. and Perry, W. O.	Apr. 28, 1891
443,097	Kim, G. M.	Dec. 23, 1890	451,202	Thomson, D. P.	Apr. 28, 1891
444,273	Cliff, E.	Jan. 6, 1891	451,996	Dow, W. E.	May 12, 1891

67. LAMPS AND GAS FITTINGS.—58. DROP LIGHTS—SPRING DRUM.

452,799	Matteson, J. A.				May 26, 1891
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67. LAMPS AND GAS FITTINGS.—8. GAS FITTINGS.

442,270	Marshall, N.				Dec. 9, 1890
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67. LAMPS AND GAS FITTINGS.—77. GLOBES.

452,638	Gärtner, A. F. and Harris, J. C.	May 19, 1891	452,701	Gärtner, A. F. and Harris, J. C.	May 19, 1891
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67. LAMPS AND GAS FITTINGS.—51. GAS BURNERS—INCANDESCENT.

450,099	Fahnehjelm, O. B.				Apr. 7, 1891
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67. LAMPS AND GAS FITTINGS.—94. GUARDS.

442,071	Mino, J.				Dec. 2, 1890
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67. LAMPS AND GAS FITTINGS.—78. HARPS AND HANGERS.

453,002	Hamilton, J. E.				May 26, 1891
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67. LAMPS AND GAS FITTINGS.—22. LAMP SHADES.

No.	NAME.	DATE.	No.	NAME.	DATE.
432,826	Goehst, J. H.	July 22, 1890	445,259	Curtis, W. B. and Himrod, C.	Jan. 27, 1891
442,577	Fraser, W. S.	Dec. 9, 1890	448,741	Mueller, E. T.	Mar. 24, 1891
443,169	Simpson, J. T.	Dec. 23, 1890	449,407	Easton, J. W.	Mar. 31, 1891

67. LAMPS AND GAS FITTINGS.—21. LAMP POSTS.

438,773	Dinn, P. J.	Oct. 21, 1890
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67. LAMPS AND GAS FITTINGS.—26. LOCOMOTIVE HEAD LIGHTS.

449,719	Ward, B. B.	Apr. 7, 1891
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67. LAMPS AND GAS FITTINGS.—72. REFLECTORS.

449,403	Cooley, F.	Mar. 31, 1891
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67. LAMPS AND GAS FITTINGS.—67. SHADE SUPPORTS.

443,563	Bergmann, S.	Dec. 30, 1890
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67. LAMPS AND GAS FITTINGS.—73. STREET LAMP HANGERS.

454,166	Dillon, T.	June 16, 1891
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70. LOCKS AND LATCHES.—26. TIME LOCKS.

454,897	Adams, G. W.	June 30, 1891
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72. MASONRY.—20. STONE AND BRICK SETTING.

431,630	Wallace, T.	July 8, 1890
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73. MEASURING INSTRUMENTS.—86. CASH INDICATORS.

443,475	Bundy, W. L.	Dec. 23, 1890	449,249	Nelson, R. E.	Mar. 31, 1891
449,108	Desant, W. F. Z.	Mar. 31, 1891			

73. MEASURING INSTRUMENTS.—15. DYNAMOMETERS.

452,941	Scribner, C. E.	May 26, 1891
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73. MEASURING INSTRUMENTS.—59. FARE REGISTERS.

451,611	Allison, M. H.	May 5, 1891
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73. MEASURING INSTRUMENTS.—76. LETTER BOXES.

433,560	Detwiller, W. B.	Aug. 5, 1890
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73. MEASURING INSTRUMENTS.—61. MEASURING PUMPS.

453,484	Jewell, R.	June 2, 1891
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73. MEASURING INSTRUMENTS.—62. MEASURING VESSELS.

No.	NAME.	DATE.	No.	NAME.	DATE.
442,053	Jewell, R.				Dec. 2, 1890

73. MEASURING INSTRUMENTS.—32. PYROMETERS.

441,488	Hensley, W. S. and Grindley, W. H.				Nov. 25, 1890
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73. MEASURING INSTRUMENTS.—34. RECORDERS.

443,360	Edson, J. B.	Dec. 23, 1890	447,594	Williams, H. B.	Mar. 3, 1891
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73. MEASURING INSTRUMENTS.—90. RECORDERS—PASSENGER.

432,003	Torrey, A.				July 8, 1890
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73. MEASURING INSTRUMENTS.—35. REGISTERS.

434,584	Drew, W. W.	Aug. 19, 1890	444,358	Jewell, R.	Jan. 6, 1891
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73. MEASURING INSTRUMENTS.—38. SACK SCALES.

447,385	Van Hoesen, G. D.				Mar. 3, 1891
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73. MEASURING INSTRUMENTS.—39. SCALE BEAMS.

436,910	Snelgrove, W.	Sept. 23, 1890	449,468	Davis, J. V.	Mar. 31, 1891
466,208	Röver, A. B.	Feb. 10, 1891			

73. MEASURING INSTRUMENTS.—69. SHIP'S LOGS.

439,840	Granville, W. P.	Nov. 4, 1890	441,578	O'Neil, J.	Nov. 25, 1890
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73. MEASURING INSTRUMENTS.—43. SPEED MEASURES.

446,488	Waring, J.				Feb. 17, 1891
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73. MEASURING INSTRUMENTS.—85. TELETERMOMETERS.

455,268	Wiesebrock, F. W.				June 30, 1891
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73. MEASURING INSTRUMENTS.—51. TESTING MACHINES.

434,181	Foote, T. M.				Aug. 12, 1890
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73. MEASURING INSTRUMENTS.—52. THERMOMETERS.

434,774	Fox, E. M.	Aug. 19, 1890	442,879	Haight, H. J.	Dec. 16, 1890
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73. MEASURING INSTRUMENTS.—65. THERMOSTATS.

448,401	Wilson, J. C.				Mar. 17, 1891
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73. MEASURING INSTRUMENTS.—82. WATER GAGES—FLOAT.

444,295	Fuller, I. A.				Jan. 6, 1891
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74. MACHINE ELEMENTS.—7. GEARING.

NO.	NAME.	DATE.	NO.	NAME.	DATE.
431,811	Johnson, E. H.	July 8, 1890	450,744	Johnson, E. H.	Apr. 21, 1891
437,259	Sprague, J. J.	Sept. 30, 1890			

74. MACHINE ELEMENTS.—13. MACHINE BRAKES.

452,619	Shaw, A. J.				May 19, 1891
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74. MACHINE ELEMENTS.—14. MECHANICAL MOVEMENTS.

444,284	WARTH, A.	Jan. 6, 1891	444,286	WARTH, A.	Jan. 6, 1891
444,285	WARTH, A.	Jan. 6, 1891	444,287	WARTH, A.	Jan. 6, 1891

75. METALLURGY.—1. ALLOYS.

440,173	Macdonald, A. J.				Nov. 11, 1890
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75. METALLURGY.—34. AMALGAMATORS—ELECTRIC.

455,164	Button, G. and Wyeth, W. E.				June 30, 1891
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75. METALLURGY.—15. LEAD.

438,117	Shapleigh, W.	Oct. 7, 1890	440,273	Payen, C.	Nov. 11, 1890
440,268	Payen, C.	Nov. 11, 1890	440,274	Payen, C.	Nov. 11, 1890
440,269	Payen, C.	Nov. 11, 1890	440,275	Payen, C.	Nov. 11, 1890
440,270	Payen, C.	Nov. 11, 1890	440,276	Payen, C.	Nov. 11, 1890
440,271	Payen, C.	Nov. 11, 1890	440,277	Payen, C.	Nov. 11, 1890
440,272	Payen, C.	Nov. 11, 1890	440,575	Payen, C.	Nov. 11, 1890

75. METALLURGY.—17. REDUCING AND SEPARATING.

452,030	Castner, H. Y.				May 12, 1891
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75. METALLURGY.—68. SOLUTION AND PRECIPITATION—ELECTROLYSIS.

442,333	Roberts, I. L.	Dec. 9, 1890	442,661	Bottome, T. D.	Dec. 16, 1890
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78. HARDWARE MAKING.—5. FORGING AND WELDING.

441,276	Bayles, J. C.				Nov. 25, 1890
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83. MILLS.—59. SEPARATORS—WASHERS.

433,983	Hatch, D. P. and Guion, P. M.				Aug. 12, 1890
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84. MUSIC.—81. ELECTRIC ACTIONS.

444,169	Fuller, L. K.	Jan. 6, 1891	446,684	Hussey, C. A.	Feb. 17, 1891
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84. MUSIC.—20. ORGAN BELLOWES.

404,375	Smith, F. S.				Nov. 11, 1890
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88. OPTICS.—19. COMPASSES.

No.	Name.	Date.	No.	Name.	Date.
437,169	Aramburn, F -----	Sept. 23, 1890	441,579	O'Neil, J -----	Nov. 25, 1890

88. OPTICS.—21. DISTANCE INSTRUMENTS.

437,069	Wieseck, F. W -----	Sept. 23, 1890	441,974	Rapieff, J -----	Dec. 2, 1890
441,972	Rapieff, J -----	Dec. 2, 1890	444,217	Fiske, B. A -----	Jan. 6, 1891
441,973	Rapieff, J -----	Dec. 2, 1890			

91. PAINTING.—11. PAINTING MACHINES.

443,237	Heppell, R. W -----				Dec. 23, 1890
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92. PAPER MAKING.—7. FABRICS.

442,335	Roberts, I. L -----				Dec. 9, 1890
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92. PAPER MAKING.—5. DIGESTERS.

440,242	Wagg, S. R -----				Nov. 11, 1890
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93. PAPER MANUFACTURES.—21. PERFORATING LACE PAPER.

431,280	Odell, J. B -----				July 1, 1890
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95. PHOTOGRAPHY.—5. CAMERAS.

432,783	Blomgren, W. A -----				July 22, 1890
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95. PHOTOGRAPHY.—30. COMBINED APPARATUS.

441,158	Harbeck, W. H -----				Nov. 25, 1890
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96. COATING WITH METAL.—1. ELECTRO-DEPOSITION.

436,895	Jeançon, J. A -----	Sept. 23, 1890	441,894	Possons, W. J -----	Dec. 2, 1890
441,892	Possons, W. J -----	Dec. 2, 1890	449,890	Zingsen, F. W -----	Apr. 7, 1891
441,893	Possons, W. J -----	Dec. 2, 1890	453,355	Haswell, A. E. and A. G -----	June 2, 1891

98. PNEUMATICS.—27. FANS—AUTOMATIC.

451,873	La Boiteaux, F. M -----				May 5, 1891
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101. PRINTING.—5. BRANDING STAMPS.

445,648	Cannell, W -----				Feb. 3, 1891
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101. PRINTING.—20. HAND STAMPS.

434,396	Mallonee, J. D -----	Aug. 12, 1890	449,081	Martindale, W. B. and Malm- borg, E. R.	Mar. 24, 1891
441,430	Mallonee, J. D -----	Nov. 25, 1890			
445,161	Chase, H. A -----	Jan. 27, 1891	449,759	Martindale, W. B -----	Apr. 7, 1891

CLASSIFIED INDEX—ELECTRICITY.

101. PRINTING.—44. MATRIX MAKING.

No.	NAME.	DATE.	No.	NAME.	DATE.
435,338	Watson, J. A	Aug. 26, 1890	447,321	Hargrave, T. C.	Mar. 3, 1891
436,703	Goodson, G. A	Sept. 16, 1890	447,449	Hargrave, T. C.	Mar. 3, 1891
447,134	Lee, H. and Lebrun, E	Feb. 24, 1891	448,587	Redfield, C. L.	Mar. 17, 1891
447,135	Lee, H	Feb. 24, 1891	448,994	Redfield, C. L.	Mar. 24, 1891

101. PRINTING.—36. STEREO TYPE PLATE HOLDERS.

443,278	Hanson, E. H				Dec. 23, 1890
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101. PRINTING.—42. TYPE-WRITING.

436,319	Silkman, E. J	Sept. 9, 1890	449,923	Youngs, E. F	Apr. 7, 1891
448,271	Silkman, E. J	Mar. 17, 1891	453,430	McLaughlin, J. F	June 2, 1891

102. PROJECTILES.—9. MARINE TORPEDOES.

431,565	Donnelly, A. G				July 8, 1890
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102. PROJECTILES.—11. PRIMERS.

436,023	Smith, H. J				Sept. 9, 1890
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103. PUMPS.—13. DOUBLE PISTON.

439,792	Storey, I. E				Nov. 4, 1890
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104. RAILWAYS.—4. ELEVATED.

452,201	Thatcher, E. H				May 12, 1891
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104. RAILWAYS.—92. GRIPPERS—WHELP WHEEL.

450,189	Pocock, F. A				Apr. 14, 1891
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104. RAILWAYS.—8. INCLINED PLANES.

432,615	Henuing, B. F				July 22, 1890
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104. RAILWAYS.—93. PNEUMATIC DISPATCH TUBES.

431,698	Leaks, S. F	July 8, 1890	431,700	Leaks, S. F	July 8, 1890
431,699	Leaks, S. F	July 8, 1890	431,701	Leaks, S. F	July 8, 1890

104. RAILWAYS.—71. SIGNALS—DANGER.

443,730	Steele, J. W				Dec. 30, 1890
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104. RAILWAYS.—74. SIGNALS—TRIPS.

443,731	Steele, J. W				Dec. 30, 1890
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104. RAILWAYS.—24. SWITCHES—TRAMWAY.

438,260	Smith, C. W. and Lyons, C. J				Oct. 14, 1890
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104. RAILWAYS.—34. TRACK CLEANERS—WHEEL FENDERS.

No.	NAME.	DATE.	No.	NAME.	DATE.
443,738	Appleyard, A. E -----	Dec. 30, 1890	450,460	Hines, D -----	Apr. 14, 1891

105. RAILWAY CARS.—6. BRAKES.

434,063	Illingworth, J. and Baker, A. M	Aug. 12, 1890	454,450	Bassett, N -----	June 23, 1891
446,935	Smith, R. T -----	Feb. 24, 1891			

105. RAILWAY CARS.—28. STEAM STREET.

433,754	Wharton, W., jr -----	Aug. 5, 1890	434,098	Sperry, E. A -----	Aug. 12, 1890
434,097	Sperry, E. A -----	Aug. 12, 1890			

112. SEWING MACHINES.—24. SPECIAL MACHINES.

454,404	Ames, F -----				June 16, 1891
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114. SHIPS.—40. SUBMARINE AND TORPEDO.

453,861	Halpine, N. J -----				June 9, 1891
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116. SIGNALS.—1. ALARMS.

441,982	Simpson, I. H -----				Dec. 2, 1890
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116. SIGNALS.—11. ALARMS—FIRE.

434,872	Iske, A. and A -----				Aug. 19, 1890
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116. SIGNALS.—33. BELLS.

436,560	Doyle, G -----				Sept. 16, 1890
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116. SIGNALS.—35. DOOR BELLS.

433,724	Emme, C. A -----				Aug. 5, 1890
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116. SIGNALS.—27. STATION INDICATORS.

439,015	Kirwan, G. H -----	Oct. 21, 1890	451,282	St. John, S. H. and Jeunings, F. A.	Apr. 28, 1891
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120. STATIONERY.—26. POST OFFICE BOXES.

455,126	Smith, W. A. M. and R. T. F -----				June 30, 1891
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122. STEAM BOILERS.—11. INDICATORS.

433,872	Moore, C. W -----				Aug. 5, 1890
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123. AIR AND GAS ENGINES.—3. EXPLOSIVE.

436,936	Eisenhuth, J. W -----	Sept. 23, 1890	448,369	Regan, D. S -----	Mar. 17, 1891
439,200	Shanck, H. K -----	Oct. 28, 1890	448,989	Narjot, E -----	Mar. 24, 1891
439,232	Baldwin, C. W -----	Oct. 28, 1890	454,238	Tremper, F. E. and Eisenhuth, J. W.	June 16, 1891

CLASSIFIED INDEX—ELECTRICITY.

125. STONE WORKING.—10. DRILLS.

No.	NAME.	DATE.	No.	NAME.	DATE.
445,102	Van Depoele, C. J.	Jan. 20, 1891	449,090	Schlesinger, W. M.	Mar. 24, 1891

125. STONE WORKING.—14. MINING MACHINES.

431,239	Walter, J. M.	July 1, 1890	451,942	Lechner, F. M.	May 12, 1891
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126. STOVES AND FURNACES.—14. DAMPERS—AUTOMATIC.

441,591	Snyder, J. M.	Nov. 25, 1890	454,985	Parker, E. H.	June 30, 1891
441,745	Butz, A. M.	Dec. 2, 1890			

126. STOVES AND FURNACES.—112. DAMPERS—AUTOMATIC—PRESSURE MOTOR.

466,212	Shorey, G. L.				Feb. 10, 1891
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126. STOVES AND FURNACES.—51. SHOVELS, TONGS, AND POKERS.

433,284	Gould, W. P.				July 29, 1890
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126. STOVES AND FURNACES.—61. STOVE PIPE THIMBLES.

441,644	Conderman, G. W.				Dec. 2, 1890
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134. METAL TUBING AND WIRE.—2. LEAD PIPE MAKING.

443,551	Stillman, F. H.	Dec. 30, 1890	451,960	Tracy, L. W.	May 12, 1891
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134. METAL TUBING AND WIRE.—6. TUBES.

441,277	Bayles, J. C.				Nov. 25, 1890
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134. METAL TUBING AND WIRE.—16. WIRE.

443,536	Norman, T. W.	Dec. 30, 1890	448,594	Smith, C. R.	Mar. 17, 1891
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136. STEAM ENGINE VALVES.—11. THROTTLE.

439,445	Tushingham, F. G. and Dubois, H.	Oct. 28, 1890	442,956	Conroy, T. and Fuhrman, L. P.	Dec. 16, 1890
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137. WATER DISTRIBUTION.—20. SIPHONS.

431,542	Bailey, G. W.				July 8, 1890
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139. WEAVING.—52. STOPPING.

432,512	Coughlin, D. E.				July 22, 1890
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140. WIRE WORKING.—24. MACHINES FOR WINDING.

437,387	Wood, J. J.				Sept. 30, 1890
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148. ANNEALING AND TEMPERING.—10. TEMPERING AND ANNEALING—APPLICATIONS OF ELECTRICITY.

No.	NAME.	DATE.	No.	NAME.	DATE.
443,464	Sedgwick, F -----	Dec. 23, 1890	453,163	Ries, E. E-----	May 26, 1891
453,162	Ries, E. E-----	May 26, 1891			

149. CHEMICAL TREATMENT OF HIDES, SKINS, AND LEATHER.—10. TANNING PROCESSES.

442,115	Groth, L. A -----				Dec. 9, 1890
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150. PACKING AND STORING VESSELS.—44. GLASS AND POTTERY—JARS.

438,312	Enholm, O. A -----				Oct. 14, 1890
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154. COMPOSITE ROOFINGS AND COVERINGS.—4. BOILER COVERINGS.

433,471	Johns, H. W -----	Aug. 5, 1890	441,165	Johns, H. W -----	Nov. 25, 1890
433,472	Johns, H. W -----	Aug. 5, 1890	445,358	Sprinkmann, F -----	Jan. 27, 1891
433,473	Johns, H. W -----	Aug. 5, 1890			

164. PUNCHING AND SHEARING.—3. SAWING METAL.

431,564	Denison, S. P -----				July 8, 1890
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166. ARTESIAN AND OIL WELLS.—3. DRILLING AND BORING.

431,131	Webber, W -----	July 1, 1890	455,037	Gardner, F -----	June 30, 1891
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181. ACOUSTICS.—2. EAR TRUMPETS.

448,627	Benjamin, G. V -----				Mar. 24, 1891
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181. ACOUSTICS.—3. MECHANICAL TELEPHONES.

442,799	Carr, R. S -----				Dec. 16, 1890
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184. LUBRICATORS.—8. MISCELLANEOUS.

432,927	Barriett, S. L -----				July 22, 1890
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186. STORE SERVICE.—1. GRAVITY.

439,726	Elliott, G. R -----				Nov. 4, 1890
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186. STORE SERVICE.—7. SWITCHES.

448,157	Moyer, J. W. and Jackson, G. F -----				Mar. 10, 1891
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186. STORE SERVICE.—9. VENDING APPARATUS.

434,109	Harris, A -----	Aug. 12, 1890	438,174	Patterson, J. W -----	Oct. 14, 1890
434,395	Little, R. H -----	Aug. 12, 1890	439,477	Coffin, C. L -----	Oct. 28, 1890
437,293	Dugan, H. F -----	Sept. 30, 1890	439,478	Coffin, C. L -----	Oct. 28, 1890

187. ELEVATORS.—1. ELEVATORS.

446,907	Whitlock, E -----	Feb. 24, 1891	447,899	Otis, N. P -----	Mar. 10, 1891
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188. FLUID PRESSURE RAILWAY BRAKES.—4. ELECTRIC.

No.	NAME.	DATE.	No.	NAME.	DATE.
452,942	Slater, W. W.				May 26, 1891

192. CLUTCHES.—15. INTERMITTENT GRIP.

437,428	Edison, T. A.				Sept. 30, 1890
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194. COIN CONTROLLED APPARATUS.—5. ARTICLE DELIVERY—SLIDABLE PUSHER, COIN ENGAGED.

441,259	Sylvester, P. L.				Nov. 25, 1890
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194. COIN CONTROLLED APPARATUS.—10. EXHIBITORS—SURFACE.

455,100	Harris, A.				June 30, 1891
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194. COIN CONTROLLED APPARATUS.—11. FLUID DELIVERY.

441,861	Van Sant, W. S. and Eames, E. C.				Dec. 2, 1890
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194. COIN CONTROLLED APPARATUS.—14. INDUCTION COILS.

445,220	Colby, E. J.				Jan. 27, 1891
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194. COIN CONTROLLED APPARATUS.—16. MISCELLANEOUS.

448,024	Gray, W.	Mar. 10, 1891	452,068	Ashwell, W. H.	May 12, 1891
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194. COIN CONTROLLED APPARATUS.—17. PHONOGRAPHS.

431,883	Douglass, L. F.				July 8, 1890
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194. COIN CONTROLLED APPARATUS.—23. WEIGHING.

454,529	Rutter, G. E.				June 23, 1891
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200. TOWERS.—3. TELEGRAPH POLES.

431,955	Schneider, J. F. and Carson, D. K.	July 8, 1890	449,977	Stern, W. A.	Apr. 7, 1891
449,125	Lieb, C. A.	Mar. 31, 1891	451,730	Fletcher, J. R.	May 5, 1891
419,375	Meyer, J. and Binder, C.	Mar. 31, 1891	451,832	Milliken, F.	May 5, 1891
449,753	Brownlee, J. N.	Apr. 7, 1891	452,255	Bray, T. J.	May 12, 1891
449,777	Hall, O. B.	Apr. 7, 1891	453,286	Lieb, C. A.	June 2, 1891

APPENDIX No. X.

PART II.

CONSISTING OF A

NUMERICAL AND CHRONOLOGICAL INDEX OF ALL PATENTS

RELATING TO

ELECTRICITY

Issued from July 1, 1890, to June 30, 1891, inclusive, giving names of Inventors, numbers and dates of Patents, and the sub-class to which each belongs.

NUMERICAL INDEX

OF

PATENTS RELATING TO ELECTRICITY

FROM JULY 1, 1890, TO JUNE 30, 1891.

NO.	NAME.	CLASS.	DATE.
431,035	Daft, L.	Cut-outs, electro-magnetic	July 1, 1890
431,038	Dillon, L. W.	Lights, incandescent, special features	July 1, 1890
431,062	Kimball, J. L. and Wirt, H. C.	Cut-outs, thermal	July 1, 1890
431,073	Parrish, M. W.	Batteries, galvanic	July 1, 1890
431,088	Vincent, C. H.	Telephones, calls	July 1, 1890
431,092	Wheeler, F.	Railways, systems, overhead	July 1, 1890
431,093	Wheeler, F.	do	July 1, 1890
431,094	Wheeler, F.	do	July 1, 1890
431,095	Wheeler, F.	do	July 1, 1890
431,104	Cheever, J. H.	Insulating materials	July 1, 1890
431,118	Loomis, O. P.	Cut-outs, mechanical	July 1, 1890
431,131	Webber, W.	Drilling and boring	July 1, 1890
431,134	Winkler, C. F.	Magneto-electric	July 1, 1890
431,141	Gale, G. F.	Telegraphy, fire	July 1, 1890
431,170	Marvin, H. N.	Transmission of power	July 1, 1890
431,181	Delany, P. B.	Bells	July 1, 1890
431,185	Favor, L. B.	Cut-outs, thermal	July 1, 1890
431,186	Favor, L. B.	do	July 1, 1890
431,213	McDougall, W. M.	Electric locomotives	July 1, 1890
431,216	Stanley, W., jr.	Regulators, alternating	July 1, 1890
431,217	Stanley, W., jr.	do	July 1, 1890
431,218	Stanley, W., jr.	do	July 1, 1890
431,235	Shallenberger, O. B.	do	July 1, 1890
431,239	Walter, J. M.	Mining machines	July 1, 1890
431,243	Cauderay, J.	Meters	July 1, 1890
431,256	Drown, F. E.	Electric locomotives	July 1, 1890
431,271	MacFarlane, J.	Alarms	July 1, 1890
431,280	Odell, J. B.	Perforating lace paper	July 1, 1890
431,320	Bergmann, S.	Lights, incandescent, special features	July 1, 1890
431,341	Foot, T. M.	Batteries, secondary	July 1, 1890
431,408	Snee, W.	Railway signals	July 1, 1890
431,412	Studte, H.	Connectors	July 1, 1890
431,414	Thomson, E.	Conductors, supports, and insulators	July 1, 1890
431,439	Coffin, C. L.	Heaters	July 1, 1890
431,447	Dixon, T. S. E.	Batteries, secondary	July 1, 1890
431,460	Gutmann, L.	Systems of distribution	July 1, 1890
431,482	Ries, E. E.	Railways, systems, converter	July 1, 1890
431,492	Van Depoele, C. J.	Motors, reciprocating	July 1, 1890
431,493	Van Depoele, C. J.	do	July 1, 1890
431,494	Van Depoele, C. J.	Transmission of power	July 1, 1890
431,495	Van Depoele, C. J.	do	July 1, 1890
431,496	Van Depoele, C. J.	do	July 1, 1890
431,516	Haines, A. Z. and Curry, J. H.	Cut-outs, mechanical	July 1, 1890
431,519	Hnnter, R. M.	Railways, systems, conduit	July 1, 1890
431,531	Seely, J. A.	Telephones, systems	July 1, 1890
431,542	Bailey, G. W.	Water distribution, siphons	July 8, 1890
431,551	Bryant, W. C.	Lights, incandescent, special features	July 8, 1890
431,559	Colgate, A. E.	Magneto-electric, hand machines	July 8, 1890
431,564	Denison, S. P.	Sawing metal	July 8, 1890
431,565	Donnelly, A. G.	Marine torpedoes	July 8, 1890
431,578	Guerrant, G. M.	Engraving machines	July 8, 1890
431,597	Lehy, G. B.	Alarms, burglar	July 8, 1890
431,598	Lehy, G. B.	Telegraphy, fire	July 8, 1890
431,617	Pollak, C. F.	Hardware making, miscellaneous	July 8, 1890
431,618	Polson, G. A.	Regulators	July 8, 1890
431,630	Wallace, T.	Stone and brick setting	July 8, 1890
431,633	Wehrle, J. H.	Railways, systems, conduit	July 8, 1890
431,634	Wehrle, J. H.	do	July 8, 1890
431,649	Currie, S. C. C.	Electric locomotives	July 8, 1890
431,651	Delany, P. B.	Telegraphy, multiplex	July 8, 1890
431,671	McCartney, J. H.	Railway signals	July 8, 1890
431,681	Wood, J. J.	Lights, sockets, and keys	July 8, 1890
431,684	Andersen, J. M.	Railways, systems, overhead, trolleys	July 8, 1890

No.	NAME.	CLASS.	DATE.
431,698	Leaks, S. F.	Railways, pneumatic dispatch tubes	July 8, 1890
431,699	Leaks, S. F.	do	July 8, 1890
431,700	Leaks, S. F.	do	July 8, 1890
431,701	Leaks, S. F.	do	July 8, 1890
431,711	Short, S. H.	Railways, systems	July 8, 1890
431,718	Favor, L. B.	Cut-outs, thermal	July 8, 1890
431,720	Hunter, R. M.	Electric locomotives	July 8, 1890
431,721	Jacobs, S. J.	Lights, incandescent, special features	July 8, 1890
431,742	Goodwin, C. R.	Batteries, galvanic	July 8, 1890
431,776	Lean, G. R.	Lights, incandescent	July 8, 1890
431,777	Miller, J. D. and Dofflemyre, J. A.	Applications, general	July 8, 1890
431,780	Parsley, W. L.	Conductors, underground	July 8, 1890
431,784	Scott, G. B.	Telegraphy, printing	July 8, 1890
431,793	Anderson, F.	Telegraphy, automatic	July 8, 1890
431,794	Anderson, F.	do	July 8, 1890
431,810	Hess, E. C.	Telephones, supports	July 8, 1890
431,811	Johnson, E. H.	Machine elements, gearing	July 8, 1890
431,812	Johnson, E. H.	Regulators	July 8, 1890
431,823	Sprague, F. J.	Electric locomotives	July 8, 1890
431,879	Dickerson, E. N.	Systems of distribution	July 8, 1890
431,883	Douglass, L. F.	Phonographs	July 8, 1890
431,885	Foer, D.	Alarms	July 8, 1890
431,955	Schneider, J. F. and Carson, D. K.	Towers, telegraph poles	July 8, 1890
431,962	Barton, E. M.	Telephones, systems	July 8, 1890
431,968	Goodwin, C. R.	Batteries, galvanic	July 8, 1890
431,973	Herty, J. T.	Conductors, supports, and insulators	July 8, 1890
431,977	Hunter, R. M.	Railways, systems, circuits, multiple arc	July 8, 1890
431,978	Jackson, A. W.	Medical and surgical, body-wear	July 8, 1890
431,979	Jacobs, H. E.	Telegraphy, fire, alarms and extinguishers	July 8, 1890
431,987	McCoy, A. T.	Telegraphy, printing	July 8, 1890
431,999	Salisbury, W. S.	Apparel, cutting	July 8, 1890
432,003	Torrey, A.	Recorders, passenger	July 8, 1890
432,022	De Castro, A.	Induction coils	July 15, 1890
432,040	Haslam, J. P.	Cordage, warping	July 15, 1890
432,049	Hunter, R. M.	Railways, systems, circuits, multiple arc	July 15, 1890
432,050	Kammeyer, C. E.	Inducto-rooms, transformers, stationary	July 15, 1890
432,053	Korst, P. H.	Meters	July 15, 1890
432,063	Miller, W. C.	Railways, systems, overhead, trolleys	July 15, 1890
432,095	Swart, W. D.	Railways, systems	July 15, 1890
432,098	Treber, J. M.	Telegraphy, relays and sounders	July 15, 1890
432,131	Flemming, O.	Rheostats	July 15, 1890
432,136	Hunter, R. M.	Electric locomotives	July 15, 1890
432,142	Knight, W. H.	do	July 15, 1890
432,169	Perret, F. A.	Magneto-electric	July 15, 1890
432,197	Graham, R.	Igniting devices, manual	July 15, 1890
432,202	McLaughlin, J. F.	Batteries, secondary	July 15, 1890
432,204	McLaughlin, J. F.	Railways, systems, conduit	July 15, 1890
432,205	McLaughlin, J. F.	Heaters	July 15, 1890
432,206	McLaughlin, J. F.	Magneto-electric	July 15, 1890
432,207	McLaughlin, J. F.	Cut-outs, mechanical	July 15, 1890
432,208	McLaughlin, J. F.	Electric locomotives	July 15, 1890
432,209	McLaughlin, J. F.	Applications, tools and machines	July 15, 1890
432,215	Redding, H.	Igniting devices, manual	July 15, 1890
432,234	Frey, A. C.	Cut-outs, mechanical	July 15, 1890
432,237	Henderson, J. W.	Electric locomotives	July 15, 1890
432,279	Massey, G. B.	Rheostats	July 15, 1890
432,284	Russell, E. C.	Lights, arc, gravity feed, clutch	July 15, 1890
432,310	Higham, D.	Conductors	July 15, 1890
432,345	Van Depoele, C. J.	Electric locomotives	July 15, 1890
432,387	Enholm, O. A.	Magneto-electric	July 15, 1890
432,416	Lynch, J.	Railways, systems, conduits	July 15, 1890
432,432	Palmer, C. M.	Applications, tools and machines	July 15, 1890
432,433	Palmer, C. M.	do	July 15, 1890
432,453	Taylor, W. W.	Telegraphy, printing	July 15, 1890
432,490	De Khotinsky, A.	do	July 15, 1890
432,500	Wagemann, E.	Magneto-electric	July 15, 1890
432,501	Wageman, E.	Electric locomotives	July 15, 1890
432,512	Coughlin, D. E.	Stopping, weaving	July 22, 1890
432,521	Field, S. D.	Cut-outs, thermal	July 22, 1890
432,547	McCoy, J. A.	Telephones, systems	July 22, 1890
432,561	Reekenzaun, A.	Motors	July 22, 1890
432,571	Seibert, N.	Railways, systems, conduit	July 22, 1890
432,577	Spang, H. W.	Magneto-electric	July 22, 1890
432,581	Thomson, E.	Railways, systems, overhead	July 22, 1890
432,615	Henning, B. F.	Railways, inline planes	July 22, 1890
432,618	Holcombe, A. G.	Telegraphy, fire	July 22, 1890
432,619	Holcombe, A. G.	do	July 22, 1890

No.	NAME.	CLASS.	DATE.
432,623	Hunter, R. M.	Electric locomotives	July 22, 1890
432,629	Lemp, H. and Tregoning, J.	Heaters	July 22, 1890
432,630	Lemp, H.	do	July 22, 1890
432,644	Rice, E. W., jr.	Electric locomotives	July 22, 1890
432,645	Richards, J. E.	Recorders	July 22, 1890
432,646	Smith, M. H.	Locomotion	July 22, 1890
432,651	Thomson, E.	Heaters	July 22, 1890
432,652	Thomson, E.	Magneto-electric	July 22, 1890
432,653	Thomson, E.	Heaters	July 22, 1890
432,654	Thomson, E.	Meters	July 22, 1890
432,655	Thomson, E.	Magneto-electric	July 22, 1890
432,656	Thomson, E.	Heaters	July 22, 1890
432,657	Timmis, I. A.	Batteries, secondary, applications	July 22, 1890
432,670	Jennings, B.	Railways, systems, conduit	July 22, 1890
432,672	Kookogey, W. P.	Batteries, secondary	July 22, 1890
432,673	Mansfield, F.	Railways, systems, closed conduit	July 22, 1890
432,674	Mansfield, F.	do	July 22, 1890
432,675	Mansfield, F.	Locomotion	July 22, 1890
432,681	Waite, H. E.	Batteries, galvanic	July 22, 1890
432,694	Chappell, G. H.	Indicators	July 22, 1890
432,707	Humbert, H.	Motors	July 22, 1890
432,710	Poland, L. N. P.	Lights, filaments and carbons	July 22, 1890
432,724	Carr, C. P.	Telegraphy, circuits and systems	July 22, 1890
432,727	Dewey, M. W.	Heaters	July 22, 1890
432,745	Cooke, E. T. and Mackay, W. H.	Lighting, systems	July 22, 1890
432,748	Edgerton, N. H.	Magneto-electric	July 22, 1890
432,752	Hunter, R. M.	Railways, systems, overhead, trolleys	July 22, 1890
432,753	Hunter, R. M.	Electric locomotives	July 22, 1890
432,783	Blomgren, W. A.	Photography, cameras	July 22, 1890
432,823	Finney, G. S.	Separators	July 22, 1890
432,826	Goehst, J. H.	Lamp shades	July 22, 1890
432,834	Morris, H. G.	Batteries, secondary	July 22, 1890
432,883	Lebenberg, S.	Telephones, supports	July 22, 1890
432,884	Lehman, J. H.	Igniting devices, manual	July 22, 1890
432,894	Parrish, T. J.	Rheostats	July 22, 1890
432,896	Porter, C. S.	Electro-magnets	July 22, 1890
432,927	Barriett, S. L.	Lubricators, miscellaneous	July 22, 1890
432,932	Burton, W. L.	Heaters	July 22, 1890
432,944	Jennings, B.	Railways, systems, conduit	July 22, 1890
432,949	Lucas, A. H.	Lights, arc, special features	July 22, 1890
432,965	Aldrich, F. H.	Lights, incandescent, special features	July 29, 1890
432,968	Bayley, C. H.	Advertising, signs	July 29, 1890
432,973	Brewer, H. J.	Batteries, galvanic	July 29, 1890
432,978	Chase, H. A.	Cut-outs, electro-magnetic	July 29, 1890
432,979	Chase, H. A.	do	July 29, 1890
432,980	Chase, H. A.	Cut-outs, thermal	July 29, 1890
432,988	Doyle, C. B.	Motors	July 29, 1890
433,022	Noyes, B. J.	Cut-outs, thermal	July 29, 1890
433,025	Patterson, W. R.	Conductors, underground	July 29, 1890
433,041	Saunderson, L.	Lights, filaments and carbons	July 29, 1890
433,045	Scribner, C. E.	Cut-outs, thermal	July 29, 1890
433,046	Scribner, C. E.	Telephones, systems	July 29, 1890
433,047	Scribner, C. E.	do	July 29, 1890
433,051	Spang, H. W.	Magneto-electric	July 29, 1890
433,082	Jones, F. W.	Telegraphy, circuits and systems	July 29, 1890
433,120	Field, S. D.	Telephones, electric	July 29, 1890
433,167	Glover, J. B.	Indicators	July 29, 1890
433,170	Hunter, R. M.	Electric locomotives	July 29, 1890
433,174	Kookogey, W. P.	Batteries, secondary	July 29, 1890
433,180	Parcell, A. L.	Electric locomotives	July 29, 1890
433,181	Parcell, A. L.	do	July 29, 1890
433,187	Shapleigh, M. S.	Cut-outs, thermal	July 29, 1890
433,210	Odell, J. B.	Electric locomotives	July 29, 1890
433,215	Rabinowicz, I.	Insulating materials	July 29, 1890
433,216	Reppy, A. W.	Telegraphy, railway-car	July 29, 1890
433,229	Bernstein, A.	Cut-outs, thermal	July 29, 1890
433,254	Niles, H. B.	Glass, plate and window	July 29, 1890
433,269	Belt, P. P.	Regulators	July 29, 1890
433,284	Gould, W. P.	Shovels, tongs, and pokers	July 29, 1890
433,307	Robinson, W. E.	Indicators	July 29, 1890
433,359	McLaughlin, J. F.	Cut-outs, mechanical	July 29, 1890
433,360	McLaughlin, J. F.	Railways, systems, battery	July 29, 1890
433,371	Schirner, A.	Lights, sockets and keys	July 29, 1890
433,375	Sparrow, F. M.	Valve controllers	July 29, 1890
433,381	Williams, J. T.	Railways, systems, telpher, solenoid	July 29, 1890
433,384	Woodward, J. H.	Electrodes	July 29, 1890
433,390	Belding, W. S.	Magneto-electric	July 29, 1890

No.	NAME.	CLASS.	DATE.
433,391	Belding, W. S	Magneto-electric	July 29, 1890
433,392	Belding, W. S	do	July 29, 1890
433,393	Belding, W. S	do	July 29, 1890
433,400	Foote, T. M	Motors	July 29, 1890
433,401	Foote, T. M	Electric locomotives	July 29, 1890
433,402	Foote, T. M	do	July 29, 1890
433,407	Hunter, R. M	Railways, systems, overhead, trolleys	July 29, 1890
433,408	Hunter, R. M	Electric locomotives	July 29, 1890
433,409	Keithley, H. R	Railroads, systems, conduit	July 29, 1890
433,421	Robbins, A. C	Telegraphy, fire	July 29, 1890
433,424	Scribner, C. E	Telephones, systems	July 29, 1890
433,425	Sprague, F. J	Railways, systems, overhead, trolleys	July 29, 1890
433,430	Wurts, A. and Baldwin, O. H	Telegraphy, lightning arresters	July 29, 1890
433,445	Clark, J. C	Recorders	Aug. 5, 1890
433,451	Dickerson, E. N	Batteries, thermal	Aug. 5, 1890
433,459	Ferrell, I. M	Lightning rods	Aug. 5, 1890
433,471	Johns, H. W	Coverings	Aug. 5, 1890
433,472	Johns, H. W	do	Aug. 5, 1890
433,473	Johns, H. W	do	Aug. 5, 1890
433,485	Noyes, B. J	Telegraphy, fire	Aug. 5, 1890
433,486	Noyes, B. J	do	Aug. 5, 1890
433,504	Wilson, J. C. and Noyes, B. J	do	Aug. 5, 1890
433,505	Wilson, J. C	do	Aug. 5, 1890
433,523	Easton, J. W	Magneto-electric	Aug. 5, 1890
433,544	Thobe, A. A. and Embley, W	Railways, systems, conduit	Aug. 5, 1890
433,554	True, L. L	Ball traps	Aug. 5, 1890
433,557	Winkler, C. F	Magneto-electric	Aug. 5, 1890
433,560	Detwiller, W. B	Letter boxes	Aug. 5, 1890
433,561	Furlong, L	Insulators	Aug. 5, 1890
433,584	Vining, C. J	Annunciators	Aug. 5, 1890
433,611	Bain, F	Railways, systems, overhead, trolleys	Aug. 5, 1890
433,619	Cutler, J. L	Telephones, calls	Aug. 5, 1890
433,636	Warner, E. P	Telephones, systems	Aug. 5, 1890
433,637	Weston, E	Galvanometers	Aug. 5, 1890
433,671	Carpenter, C. E	Heaters	Aug. 5, 1890
433,682	Jenks, W. J	Telegraphy, lightning arresters	Aug. 5, 1890
433,687	Little, E. W. and Robb, J. T	Lights, incandescent, special features	Aug. 5, 1890
433,698	Roebuck, T. G	Lights, sockets and keys	Aug. 5, 1890
433,700	Tesla, N	Motors, alternating	Aug. 5, 1890
433,701	Tesla, N	do	Aug. 5, 1890
433,702	Tesla, N	Inductors, transformers, stationary	Aug. 5, 1890
433,703	Tesla, N	Motors, alternating	Aug. 5, 1890
433,706	Widdifield, W. P. and Bowman, A. H	Conductors	Aug. 5, 1890
433,724	Emme, C. A	Door bells	Aug. 5, 1890
433,738	Maquay, S. W	Batteries, galvanic	Aug. 5, 1890
433,744	Sargent, M. O	Cut-outs, thermal	Aug. 5, 1890
433,754	Wharton, W., jr	Street cars, steam	Aug. 5, 1890
433,758	Zipernowsky, C. and Déri, M	Transmission of power	Aug. 5, 1890
433,770	Cunnington, J. G. L	Cut-outs, thermal	Aug. 5, 1890
433,834	Van Depoele, C. J	Motors, alternating	Aug. 5, 1890
433,835	Van Deusen, J. B	Telegraphy, keys	Aug. 5, 1890
433,839	Wheeler, F. C	Railways, systems, overhead, trolleys	Aug. 5, 1890
433,851	Chamberlain, J. C	Railways, systems, battery	Aug. 5, 1890
433,872	Moore, C. W	Indicators	Aug. 5, 1890
433,883	Bergmann, S	Cut-outs, mechanical	Aug. 5, 1890
433,893	Fottrell, J	Insulating materials	Aug. 5, 1890
433,896	Hallbauer, A. L. and Hiller, E. L	Railways, conductor supports and insulators	Aug. 5, 1890
433,903	Mower, S. E	Electric locomotives	Aug. 5, 1890
433,904	Mower, S. E. and Spencer, G. J	do	Aug. 5, 1890
433,908	Parmly, S. P	Lights, arc, special features	Aug. 5, 1890
433,915	Tregurtha, A. T	Lights, incandescent, special features	Aug. 5, 1890
433,917	Warner, E. P	Conductors	Aug. 5, 1890
433,918	Wheeler, M	Railways, systems, circuits, multiple arc	Aug. 5, 1890
433,920	Wiley, G. L. and Acheson, E. G	Conductors	Aug. 5, 1890
433,921	Wiley, G. L. and Acheson, E. G	do	Aug. 5, 1890
433,922	Wiley, G. L. and Acheson, E. G	do	Aug. 5, 1890
433,948	Lieb, C. A	Connectors	Aug. 12, 1890
433,959	Paul, W. C. and Kleinstercher, A. E	Railway signals	Aug. 12, 1890
433,981	Davis, E	Telephones, electric	Aug. 12, 1890
433,983	Hatch, D. P. and Guion, P. M	Ore and coal washers	Aug. 12, 1890
434,017	Fowler, H. E	Heaters	Aug. 12, 1890
434,024	Monrath, G. and Gibbons, W. M	Electrodes	Aug. 12, 1890
434,030	Hunter, R. M	Railways, systems, conduit	Aug. 12, 1890
434,032	Pfannkuche, G	Galvanometers	Aug. 12, 1890
434,034	Short, S. H	Electric locomotives	Aug. 12, 1890
434,036	Wehrle, J. H	Railways, systems, conduit	Aug. 12, 1890
434,038	White, A. B	Drop lights and hangers	Aug. 12, 1890

No.	NAME.	CLASS.	DATE.
434,063	Illingworth, J. and Baker, A. M	Street cars, brakes	Aug. 12, 1890
434,076	Zoeppke, F. G. C	Conductors, underground	Aug. 12, 1890
434,087	Lieb, C. A	Connectors	Aug. 12, 1890
434,093	Schoop, P	Batteries, secondary	Aug. 12, 1890
434,096	Sperry, E. A	Motors	Aug. 12, 1890
434,097	Sperry, E. A	Street cars, steam	Aug. 12, 1890
434,098	Sperry, E. A	do	Aug. 12, 1890
434,109	Harris, A	Vending apparatus	Aug. 12, 1890
434,133	Kookogey, W. P	Heaters	Aug. 12, 1890
434,144	Dunbar, J. K	Insulators	Aug. 12, 1890
434,147	Hunter, R. M	Electric locomotives	Aug. 12, 1890
434,148	Hunter, R. M	do	Aug. 12, 1890
434,149	Klein, C. J	Lights, incandescent, special features	Aug. 12, 1890
434,151	Lange, P. and Shallenberger, O. B	Cut-outs, mechanical	Aug. 12, 1890
434,152	Lange, P. and Shallenberger, O. B	do	Aug. 12, 1890
434,153	Lange, P. and Shallenberger, O. B	Lights, sockets and keys	Aug. 12, 1890
434,154	Lange, P	Galvanometers	Aug. 12, 1890
434,159	Reinmann, A. L	Lights, incandescent	Aug. 12, 1890
434,162	Shallenberger, O. B. and Byllesby, H. M	Systems of distribution	Aug. 12, 1890
434,163	Stilwell, L. B	Telegraphy, lightning arresters	Aug. 12, 1890
434,164	Terry, C. A	Inductometers, transformers, stationary	Aug. 12, 1890
434,165	Westinghouse, G., jr	Conductors, underground	Aug. 12, 1890
434,166	Wurts, A	Telegraphy, lightning arresters	Aug. 12, 1890
434,167	Wurts, A	do	Aug. 12, 1890
434,168	Wurts, A	Cut-outs, thermal	Aug. 12, 1890
434,169	Wurts, A	do	Aug. 12, 1890
434,170	Wurts, A	Telegraphy, lightning arresters	Aug. 12, 1890
434,175	Cady, W. E	Lights, arc, gravity feed, clutch	Aug. 12, 1890
434,180	Foote, T. M	Motors	Aug. 12, 1890
434,181	Foote, T. M	Testing machines	Aug. 12, 1890
434,186	Jaques, W. E. and Emmott, G. R	Cut-outs, thermal	Aug. 12, 1890
434,199	Pumpelly, J. K	Batteries, secondary	Aug. 12, 1890
424,206	Schmid, A	Magneto-electric	Aug. 12, 1890
434,224	Woodward, H	Batteries, secondary	Aug. 12, 1890
434,261	Foote, T. M	Telegraphy, printing	Aug. 12, 1890
434,275	Hunter, R. M	Railways, systems, circuits, multiple arc	Aug. 12, 1890
434,276	Hunter, R. M	Railways, systems, overhead, trolleys	Aug. 12, 1890
434,301	Schoop, P	Batteries, secondary	Aug. 12, 1890
434,363	Sperry, E. A	Electric locomotives	Aug. 12, 1890
434,371	Wurts, A	Telegraphy, lightning arresters	Aug. 12, 1890
434,376	Cochran, G. W	Batteries, secondary	Aug. 12, 1890
434,382	Currie, S. C. C	Applications, tools and machines	Aug. 12, 1890
434,389	Hunter, R. M	Railways, systems, conduit	Aug. 12, 1890
434,390	Hunter, R. M	do	Aug. 12, 1890
434,391	Hunter, R. M	Electric locomotives	Aug. 12, 1890
434,395	Little, R. H	Vending apparatus	Aug. 12, 1890
434,396	Mallonee, J. D	Printing, hand stamps	Aug. 12, 1890
434,410	Van Depoele, C. J	Railways, systems, closed conduit	Aug. 12, 1890
434,427	Cox, H. B	Batteries, thermal	Aug. 19, 1890
434,428	Cox, H. B	do	Aug. 19, 1890
434,429	Cox, H. B	do	Aug. 19, 1890
434,444	Hicks, T. H	Batteries, secondary	Aug. 19, 1890
434,450	Lemp, H	Heaters	Aug. 19, 1890
434,457	Pepper, D., jr	Batteries, secondary	Aug. 19, 1890
434,458	Pepper, D., jr	do	Aug. 19, 1890
434,468	Robb, R	Heaters	Aug. 19, 1890
434,488	Thomson, E	Motors, alternating	Aug. 19, 1890
434,489	Thomson, E	Transmission of power	Aug. 19, 1890
434,500	Cox, H. B	Batteries, thermal	Aug. 19, 1890
434,501	Canderay, J	Meters	Aug. 19, 1890
434,509	Huntington, C. W	Cut-outs, thermal	Aug. 19, 1890
434,530	Thomson, E	Heaters	Aug. 19, 1890
434,531	Thomson, E	do	Aug. 19, 1890
434,532	Thomson, E	do	Aug. 19, 1890
434,557	Eikemeyer, R	Galvanometers	Aug. 19, 1890
434,558	Eikemeyer, R	do	Aug. 19, 1890
434,579	Corning, F. G	Railways, systems, battery	Aug. 19, 1890
434,580	Corning, F. G	do	Aug. 19, 1890
434,581	Corning, F. G	do	Aug. 19, 1890
434,582	Corning, F. G	do	Aug. 19, 1890
434,584	Drew, W. W	Registers	Aug. 19, 1890
434,585	Edison, T. A	Telegraphy, relays and sounders	Aug. 19, 1890
434,586	Edison, T. A	Pyro-magneto electric devices	Aug. 19, 1890
434,587	Edison, T. A	Batteries, thermal	Aug. 19, 1890
434,588	Edison, T. A. and Dickson, W. K. L	Separators	Aug. 19, 1890
434,589	Edison, T. A	Electric locomotives	Aug. 19, 1890
434,590	Entz, J. B	Magneto-electric	Aug. 19, 1890

No.	NAME.	CLASS.	DATE.
434,593	Fiuk, W. M	Batteries, galvanic	Aug. 19, 1890
434,596	Hathaway, P	Telegraphy, circuit closers	Aug. 19, 1890
434,614	Walter, H. E	Systems of distribution	Aug. 19, 1890
434,639	Maxwell, D	Bridges, towers	Aug. 19, 1890
434,640	Mestern, H	Batteries, thermal	Aug. 19, 1890
434,671	Mellett, L	Applications, tools and machines	Aug. 19, 1890
434,682	Stevens, W. L. and Wescott, E. J	Railways, systems, overhead, trolleys	Aug. 19, 1890
434,684	Van Depoele, C. J	Railways, systems, converter	Aug. 19, 1890
434,685	Van Depoele, C. J	do	Aug. 19, 1890
434,686	Van Depoele, C. J	do	Aug. 19, 1890
434,687	Van Depoele, C. J	do	Aug. 19, 1890
434,746	Williams, R. E	Medical and surgical, body-wear	Aug. 19, 1890
434,774	Fox, E. M	Thermometers	Aug. 19, 1890
434,816	Van Depoele, C. J	Transmission of power	Aug. 19, 1890
434,827	Gorton, A	Railways, systems, closed conduit	Aug. 19, 1890
434,835	Pearson, P	Telegraphy, circuits and systems	Aug. 19, 1890
434,853	Wessel, F. A	Rheostats	Aug. 19, 1890
434,863	Corning, F. G	Railways, systems, battery	Aug. 19, 1890
434,869	Hollingshead, W. B	Batteries, secondary	Aug. 19, 1890
434,871	Hunter, R. M	Railways, systems, telpher	Aug. 19, 1890
434,872	Iske, A. and A	Fire alarms	Aug. 19, 1890
434,879	Oakman, S	Insulators	Aug. 19, 1890
434,880	Odell, J. B	Telegraphy, printing	Aug. 19, 1890
434,881	Odell, J. B	do	Aug. 19, 1890
434,882	Ott, J. F	Electric locomotives	Aug. 19, 1890
434,885	Phillips, W. A	Conductors	Aug. 19, 1890
434,892	Scott, G. J	Connectors	Aug. 19, 1890
434,899	Wilson, C. E	Cut-outs, mechanical	Aug. 19, 1890
434,917	Chassagne, P. J	Lights, incandescent	Aug. 26, 1890
434,922	Decrow, W. E	Telegraphy, fire	Aug. 26, 1890
434,925	Fitch, H. A	Lights, incandescent, special features	Aug. 26, 1890
434,943	Orcutt, E. L	Connectors	Aug. 26, 1890
434,949	Possons, N. S	Electric locomotives	Aug. 26, 1890
434,951	Raughtigan, M	Regulators	Aug. 26, 1890
434,961	Thomson, E	Railways, conductor supports and insulators	Aug. 26, 1890
434,992	Muehlberg, C. O	Insulators	Aug. 26, 1890
434,993	Patton, W. H	Electric locomotives	Aug. 26, 1890
435,011	Cairns, S. D	Railways, systems, overhead, trolleys	Aug. 26, 1890
435,015	Collins, W. F	Magneto-electric	Aug. 26, 1890
435,024	Rockwell, F. C	Lights, sockets and keys	Aug. 26, 1890
435,029	Bremer, W. G	do	Aug. 26, 1890
435,030	Bremer, W. G	Cut-outs, thermal	Aug. 26, 1890
435,047	Smith, W. F	Lights, sockets and keys	Aug. 26, 1890
435,048	Smith, W. F	Cut-outs, thermal	Aug. 26, 1890
435,049	Smith, W. F	Lights, sockets and keys	Aug. 26, 1890
435,084	Bauer, A. H	Batteries, secondary, applications	Aug. 26, 1890
435,093	Herrick, C. H	Cut-outs, mechanical	Aug. 26, 1890
435,097	Jacobs, S. J	Railway signals	Aug. 26, 1890
435,098	Johnston, A. L	Cut-outs, mechanical	Aug. 26, 1890
435,102	Possons, N. S	Cut-outs, thermal	Aug. 26, 1890
435,105	Stitzel, F	Railway signals	Aug. 26, 1890
435,110	Burton, G. D	Heaters	Aug. 26, 1890
435,111	Burton, G. D	do	Aug. 26, 1890
435,114	De Ferranti, S. Z	Inductors, transformers, stationary	Aug. 26, 1890
435,116	Gardiner, R. M	Lights, arc, special features	Aug. 26, 1890
435,132	Battershall, J. W	Cut-outs, mechanical	Aug. 26, 1890
435,152	Norton, J. A	do	Aug. 26, 1890
435,166	Atwood, L	Railways, systems, overhead, trolleys	Aug. 26, 1890
435,185	Park, H. S	Time checks	Aug. 26, 1890
435,213	Deane, W. H	Time alarms	Aug. 26, 1890
435,223	Heisler, C	Lights, sockets and keys	Aug. 26, 1890
435,248	Rothlisberger, E	Lights, arc, gravity feed, gear-clutch	Aug. 26, 1890
435,259	Thew, G	Railway signals	Aug. 26, 1890
435,261	Van Depoele, C. J	Transmission of power	Aug. 26, 1890
435,262	Van Depoele, C. J	Railways, conductor supports and insulators	Aug. 26, 1890
435,263	Van Depoele, C. J	Railways, systems, closed conduit	Aug. 26, 1890
435,264	Van Depoele, C. J	Metal working, miscellaneous	Aug. 26, 1890
435,283	Coffin, C. L	Heaters	Aug. 26, 1890
435,284	Coffin, C. L	do	Aug. 26, 1890
435,292	Etheridge, H	Telegraphy, automatic	Aug. 26, 1890
435,295	Ford, W. H	Telephones, systems, automatic	Aug. 26, 1890
435,296	Franklin, E	Magneto-electric	Aug. 26, 1890
435,332	Thury, R	Regulators	Aug. 26, 1890
435,338	Watson, J. A	Printing, matrix making	Aug. 26, 1890
435,340	Wilson, W. H	Railway signals	Aug. 26, 1890
435,343	Brown, F. H	Electrodes	Aug. 26, 1890
435,346	Hubbell, C. J	Batteries, galvanic	Aug. 26, 1890

No.	NAME.	CLASS.	DATE.
435,368	Robb, J. T.	Lights, incandescent, special features	Aug. 26, 1890
435,376	Brown, F. H.	Electrodes	Aug. 26, 1890
11,108	Higham, D.	Regulators	Aug. 26, 1890
435,421	Hewett, E. M. G.	Batteries, galvanic	Sept. 2, 1890
435,424	Huntington, C. W.	Cut-outs, mechanical	Sept. 2, 1890
435,438	Lockwood, T. D.	Telephones, electric	Sept. 2, 1890
435,440	Luthe, J. W. and Jeavons, A. E.	Annunciators	Sept. 2, 1890
435,447	Perkins, L. M.	Railways, systems, closed conduit	Sept. 2, 1890
435,471	Wheless, M.	Railways, systems, multiple arc	Sept. 2, 1890
435,482	Conly, M. L.	Railway signals	Sept. 2, 1890
435,486	Elliott, W. R.	Railways, systems, closed conduit	Sept. 2, 1890
435,487	Elliott, W. R.	do	Sept. 2, 1890
435,490	Foote, T. M.	Regulators	Sept. 2, 1890
435,503	Lieb, C. A.	Magneto-electric	Sept. 2, 1890
435,504	Lieb, C. A.	do	Sept. 2, 1890
435,505	Lieb, C. A.	Conductors, supports and insulators	Sept. 2, 1890
435,516	Perls, T.	Railway signals	Sept. 2, 1890
435,518	Pollok, J.	Incrustation	Sept. 2, 1890
435,525	Scribner, C. E.	Regulators	Sept. 2, 1890
435,526	Scribner, C. E.	do	Sept. 2, 1890
435,527	Scribner, C. E.	do	Sept. 2, 1890
435,536	Curtis, H. N.	Railways, systems, conduit	Sept. 2, 1890
435,545	Prescott, G. B., jr.	Regulators	Sept. 2, 1890
435,550	Walker, G. W.	Galvanometers	Sept. 2, 1890
435,558	Desant, W. F. Z.	Railway signals	Sept. 2, 1890
435,559	Duggan, J. A.	Railways, systems, overhead, trolleys	Sept. 2, 1890
435,578	Bryant, W. C.	Lights, sockets and keys	Sept. 2, 1890
435,582	Fuller, F. L.	Time checks	Sept. 2, 1890
435,629	Holcombe, A. G.	Conductors	Sept. 2, 1890
435,639	Blades, H. H.	Motors	Sept. 2, 1890
435,640	Blades, H. H.	Electric locomotives	Sept. 2, 1890
435,641	Blades, H. H.	do	Sept. 2, 1890
435,642	Dewey, M. W.	do	Sept. 2, 1890
435,643	Dewey, M. W.	Heaters	Sept. 2, 1890
435,644	Dewey, M. W.	do	Sept. 2, 1890
435,660	Hobby, V. M.	Lights, filaments and carbons	Sept. 2, 1890
435,662	Hunter, R. M.	Railways, systems, conduit	Sept. 2, 1890
435,668	Roberts, J.	Lights, incandescent, special features	Sept. 2, 1890
435,679	Breed, G.	Telegraphy, circuits and systems	Sept. 2, 1890
435,687	Edison, T. A.	Batteries, secondary, applications	Sept. 2, 1890
435,688	Edison, T. A.	Batteries, galvanic	Sept. 2, 1890
435,689	Edison, T. A.	Telegraphy, duplex	Sept. 2, 1890
435,690	Edison, T. A.	Magneto-electric	Sept. 2, 1890
435,695	Herrick, A. B.	Galvanometers	Sept. 2, 1890
435,700	Leonard, H. W.	Regulators	Sept. 2, 1890
435,744	Groswith, H.	Motors	Sept. 2, 1890
435,801	Cortese, M.	Railway signals	Sept. 2, 1890
435,851	Muirhead, A.	Telegraphy, duplex	Sept. 2, 1890
435,866	Streichenberg, G. H.	Telegraphy, circuit closers	Sept. 2, 1890
435,870	Thomson, E.	Conductors, supports and insulators	Sept. 2, 1890
435,872	Verstraete, E.	Bridges, girders and columns	Sept. 2, 1890
435,879	Hunter, R. M.	Railways, systems, conduit	Sept. 2, 1890
435,893	Hatch, A. A.	Telephones, calls	Sept. 2, 1890
435,894	Hatch, A. A.	do	Sept. 2, 1890
435,896	Howell, J. W.	Galvanometers	Sept. 2, 1890
435,897	Johnson, E. H.	Cut-outs, electro-magnetic	Sept. 2, 1890
435,898	Johnson, E. H.	Valve-controllers	Sept. 2, 1890
435,899	Johnson, E. H.	Regulators	Sept. 2, 1890
435,931	Herrick, C. H.	Lights, sockets and keys	Sept. 9, 1890
435,958	Wightman, M. J.	Motors	Sept. 9, 1890
435,964	Compton, M. D.	Indicators	Sept. 9, 1890
435,967	Graves, W. D.	Lights, arc, gravity feed, gear-clutch	Sept. 9, 1890
435,982	Stanley, W., jr.	Regulators	Sept. 9, 1890
435,983	Stephens, W.	Transmission of power	Sept. 9, 1890
435,985	Thone, F.	Rheostats	Sept. 9, 1890
436,001	Irving, F. K. and Hill, F. M.	Batteries, galvanic	Sept. 9, 1890
436,023	Smith, H. J.	Projectiles, primers	Sept. 9, 1890
436,025	Tower, G. A.	Railway signals	Sept. 9, 1890
436,030	Wilder, E. R.	Alarms, burglar	Sept. 9, 1890
436,050	Whittier, T. P.	Batteries, secondary	Sept. 9, 1890
436,080	Gibbs, J. S. and Perkins, C. G.	Cut-outs, mechanical	Sept. 9, 1890
436,087	Perkins, C. G.	do	Sept. 9, 1890
436,107	Perkins, C. G.	do	Sept. 9, 1890
436,113	Atwood, La M. C.	Regulators	Sept. 9, 1890
436,119	Carpenter, C. E.	Heaters	Sept. 9, 1890
436,120	Chubbuck, H. E.	Insulators	Sept. 9, 1890
436,122	Crowell, H. H.	Cut-outs, mechanical	Sept. 9, 1890

No.	NAME.	CLASS.	DATE.
436,125	Dewey, M. W.	Heaters	Sept. 9, 1890
436,127	Edison, T. A.	Transmission of power	Sept. 9, 1890
436,148	Newton, E. C.	Magneto-electric, couplings	Sept. 9, 1890
436,154	Schroen, F. C.	Railway signals	Sept. 9, 1890
436,168	Burt, E. M.	do	Sept. 9, 1890
436,200	Westinghouse, G., jr.	Inductoriums, transformers, stationary	Sept. 9, 1890
436,205	Berlin, C. F.	Applications, general	Sept. 9, 1890
436,219	Deeds, H. W.	Valve controllers	Sept. 9, 1890
436,238	Hoop, G. D.	Telegraphy, lightning arresters	Sept. 9, 1890
436,275	Van Depoele, C. J.	Transmission of power	Sept. 9, 1890
436,276	Van Depoele, C. J.	do	Sept. 9, 1890
436,277	Van Depoele, C. J.	do	Sept. 9, 1890
436,281	Williams, J. T.	Railways, systems, telpher, solenoid	Sept. 9, 1890
436,316	Potter, J. S., Cartwright, D. J. and Keyes, B. B.	Lights, sockets and keys	Sept. 9, 1890
436,319	Silksman, E. J.	Type-writing	Sept. 9, 1890
436,334	Burnley, W.	Telephones, electric	Sept. 16, 1890
436,335	Burnley, W.	do	Sept. 16, 1890
436,354	Hayden, M. M.	Igniting devices, manual	Sept. 16, 1890
436,371	Morse, P. C. and Winton, H. D.	Railway signals	Sept. 16, 1890
436,387	Swift, H. E.	Lights, sockets and keys	Sept. 16, 1890
436,408	Field, S. D.	Magneto-electric	Sept. 16, 1890
436,410	Geary, J.	Bells	Sept. 16, 1890
436,412	Goold, F. D'A.	Lights, sockets and keys	Sept. 16, 1890
436,425	Libbey, H. W.	Railways, systems, overhead	Sept. 16, 1890
436,432	Oehrle, W. E.	Conductors	Sept. 16, 1890
436,439	Robinson, W.	Electric locomotives	Sept. 16, 1890
436,440	Robinson, W.	do	Sept. 16, 1890
436,465	Tucker, C. A.	Lights, arc, positive feed	Sept. 16, 1890
436,512	Wiegand, S. L.	Telephones, magnetic	Sept. 16, 1890
436,513	Wiegand, S. L.	Telephones, electric	Sept. 16, 1890
436,514	Wiegand, S. L.	Telephones, relays and repeaters	Sept. 16, 1890
436,516	Wollensak, J. F. and Gill, W. E.	Batteries, galvanic	Sept. 16, 1890
436,519	Dewey, M. W.	Heaters	Sept. 16, 1890
436,560	Doyle, G.	Bells	Sept. 16, 1890
436,571	Ainslie, D. A.	Railways, systems, overhead, trolleys	Sept. 16, 1890
436,602	Hollingshead, W. B.	Batteries, secondary	Sept. 16, 1890
436,640	Singer, W. F.	Telegraphy, fire	Sept. 16, 1890
436,677	Thorne, J. and Burr, E. B.	Lights, incandescent, special features	Sept. 16, 1890
436,703	Goodson, G. A.	Printing, matrix-making	Sept. 16, 1890
436,717	Moore, J. T.	Telephones, supports	Sept. 16, 1890
436,728	Wageman, E.	Electric locomotives	Sept. 16, 1890
436,733	Easton, J. W.	Insulating materials	Sept. 16, 1890
436,740	Odell, J. B.	Telegraphy, printing	Sept. 16, 1890
436,742	Robinson, W.	Electric locomotives	Sept. 16, 1890
436,743	Robinson, W.	do	Sept. 16, 1890
436,747	Stover, J. W.	Telegraphy, fire	Sept. 16, 1890
436,777	Davidson, B. R.	Railway signals	Sept. 23, 1890
436,779	Goss, E. W.	Electric locomotives	Sept. 23, 1890
436,804	Roberts, M. J.	Dental instruments	Sept. 23, 1890
436,814	Wagniere, A.	Lights, arc, gravity feed, clutch	Sept. 23, 1890
436,843	Smith, R. D. O.	Applications, tools and machines	Sept. 23, 1890
436,857	Jones, F. R.	Connectors	Sept. 23, 1890
436,864	Abshagen, E.	Heaters	Sept. 23, 1890
436,874	Hoppes, J. J.	Railways, systems, overhead, trolleys	Sept. 23, 1890
436,895	Jeançon, J. A.	Electro-deposition	Sept. 23, 1890
436,901	Nutting, S. E.	Regulators	Sept. 23, 1890
436,910	Snelgrove, W.	Scale beams	Sept. 23, 1890
436,923	Libbey, H. W.	Railways, systems, conduit	Sept. 23, 1890
436,936	Eisenhuth, J. W.	Air and gas engines, explosive	Sept. 23, 1890
436,944	Wright, W. H. S.	Railways, systems, overhead	Sept. 23, 1890
436,952	Whittingham, G. H.	Cut-outs, thermal	Sept. 23, 1890
436,961	Upton, F. R. and Dibble, F. J.	Telegraphy, fire, alarms and extinguishers	Sept. 23, 1890
436,964	Wirt, C.	Magneto-electric	Sept. 23, 1890
436,979	Jiran, C. G.	Bells	Sept. 23, 1890
437,010	Bentley, E. M.	Telephones, systems	Sept. 23, 1890
437,011	Bentley, E. M.	Rheostats	Sept. 23, 1890
437,012	Bentley, E. M.	Telephones, systems	Sept. 23, 1890
437,044	Rawson, F. L.	Insulating materials	Sept. 23, 1890
437,069	Wiesebrook, F. W.	Optics, distance instruments	Sept. 23, 1890
437,079	Ashbrook, L. D.	Medical and surgical, body-wear	Sept. 23, 1890
437,111	Gunning, J. H.	Rheostats	Sept. 23, 1890
437,116	Hinshay, J. J.	Connectors	Sept. 23, 1890
437,126	Loth, C. E.	Conductors, underground	Sept. 23, 1890
437,158	Hunter, R. M.	Electric locomotives	Sept. 23, 1890
437,160	Mayer, M.	Motors	Sept. 23, 1890
437,169	Aramburn, F.	Optics, compasses	Sept. 23, 1890
437,183	Dyer, R. N.	Meters	Sept. 30, 1890

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437,203	Hunter, G. E. and Corthell, F. H.	Electric clocks	Sept. 30, 1890
437,204	Hunter, G. E. and Corthell, F. H.	do	Sept. 30, 1890
437,205	Hunter, G. E. and Corthell, F. H.	do	Sept. 30, 1890
437,206	Hunter, G. E. and Corthell, F. H.	do	Sept. 30, 1890
437,210	Leber, L. H.	Electric locomotives	Sept. 30, 1890
437,226	McEntee, J. A.	Advertising, signs	Sept. 30, 1890
437,259	Sprague, J. J.	Gearing	Sept. 30, 1890
437,272	Wilking, F. and Müller, H.	Batteries, secondary, applications	Sept. 30, 1890
437,293	Dugan, H. F.	Vending apparatus	Sept. 30, 1890
437,307	Kunhardt, D.	Telegraphy, automatic	Sept. 30, 1890
437,311	McCluer, C. E.	Conductors, anti-inductive	Sept. 30, 1890
437,324	Bailey, E. E. and Galbraith, J.	Cut-outs, thermal	Sept. 30, 1890
437,330	Brooks, D., jr	Conductors, lead-covered	Sept. 30, 1890
437,348	Powell, S. L.	Railway signals	Sept. 30, 1890
437,352	Battershall, J. W.	Cut-outs, mechanical	Sept. 30, 1890
437,358	Harding, C. K.	Railways, systems, closed conduit	Sept. 30, 1890
437,359	Hochhausen, W.	Cut-outs, mechanical	Sept. 30, 1890
437,360	Hochlausen, W.	Magneto-electric	Sept. 30, 1890
437,362	Jenks, W. J.	Telegraphy, lightning arresters	Sept. 30, 1890
437,363	Kalbach, H. M.	Cut-outs, thermal	Sept. 30, 1890
437,369	Tschira, A.	Alarms	Sept. 30, 1890
437,387	Wood, J. J.	Machines for winding	Sept. 30, 1890
437,393	Crosby, E. H.	Batteries, galvanic	Sept. 30, 1890
437,397	Hudic, R.	Telegraphy, lightning arresters	Sept. 30, 1890
437,412	Deprez, M.	Rheostats	Sept. 30, 1890
437,422	Edison, T. A.	Telegraphy, circuits and systems	Sept. 30, 1890
437,428	Edison, T. A.	Clutches, intermittent-grip	Sept. 30, 1890
437,445	Morton, T. M.	Conductors, underground	Sept. 30, 1890
437,469	Liebig, G. A. and Willms, C.	Batteries, galvanic	Sept. 30, 1890
437,501	Morday, W. M.	Magneto-electric	Sept. 30, 1890
437,502	Mosher, J. A.	Lights, arc, positive feed, gear-clutch	Sept. 30, 1890
437,510	Purdy, A. F.	Telegraphy, keys	Sept. 30, 1890
437,512	Rae, F. B.	Telegraphy, dynamo	Sept. 30, 1890
437,513	Rae, F. B.	Cut-outs, mechanical	Sept. 30, 1890
437,516	Sawyer, R. F.	Electric lighting, systems	Sept. 30, 1890
437,526	Spang, H. W.	Lightning rods	Sept. 30, 1890
437,533	Van Depoele, C. J.	Railways, conductor supports and insulators	Sept. 30, 1890
437,534	Van Depoele, C. J.	Railways, systems, overhead, trolleys	Sept. 30, 1890
437,535	Van Depoele, C. J.	Electric locomotives	Sept. 30, 1890
437,568	Clark, E.	Conductors	Sept. 30, 1890
437,570	Coffin, C. L.	Heaters	Sept. 30, 1890
437,571	Coffin, C. L.	do	Sept. 30, 1890
437,602	Kaiser, F. P.	Telephones, details	Sept. 30, 1890
437,613	Murray, J. W.	Railways, systems, overhead	Sept. 30, 1890
437,622	Splitdorf, C. F.	Conductors	Sept. 30, 1890
437,654	Lander, G. and Simpson, J. H.	Heaters	Sept. 30, 1890
437,661	Rae, F. B.	Electric locomotives	Sept. 30, 1890
437,662	Rae, F. B.	Motors	Sept. 30, 1890
437,663	Rae, F. B.	Generation, magneto-electric	Sept. 30, 1890
437,667	Stanley, L. T.	Cut-outs, mechanical	Sept. 30, 1890
437,668	Young, J.	Telegraphy, fire, alarms and extinguishers	Sept. 30, 1890
437,673	Bell, L. and Root, F. H.	Valve-controllers	Oct. 7, 1890
437,682	Damon, G. L.	Magnetic locks and bolts	Oct. 7, 1890
437,685	Gaynor, T. F.	Insulators	Oct. 7, 1890
437,704	Lundell, R.	Regulators	Oct. 7, 1890
437,720	Reed, E. M.	Railways, systems, conduit	Oct. 7, 1890
437,734	Einstein, J. and Kornprobst, S.	Meters	Oct. 7, 1890
437,763	Rekenzaun, A.	do	Oct. 7, 1890
437,767	Beach, R. H.	Lights, arc, positive feed	Oct. 7, 1890
437,771	Butterfield, H. R.	Heaters	Oct. 7, 1890
437,789	Nichols, A. E.	Lights, arc, special features	Oct. 7, 1890
437,798	Ransom, G. F.	Annunciators	Oct. 7, 1890
437,832	Emmner, J., jr.	Motors	Oct. 7, 1890
437,835	Little, G. and G. J.	do	Oct. 7, 1890
437,844	Blades, H. H.	Magneto-electric	Oct. 7, 1890
437,848	Lampert, H., jr.	Batteries, secondary	Oct. 7, 1890
437,851	Brown, J. E.	Lights, incandescent, special features	Oct. 7, 1890
437,859	Kelley, D. and Parkhurst, M. C.	Telegraphy, dial	Oct. 7, 1890
437,868	Ritchie, A. M.	Galvanometers	Oct. 7, 1890
437,883	Brady, T. H.	Supports and hangers	Oct. 7, 1890
437,901	Hazeltine, C. W.	Lights, arc, special features	Oct. 7, 1890
437,905	Levi, M.	Automatic devices	Oct. 7, 1890
437,913	Brooks, D., jr.	Conductors	Oct. 7, 1890
437,926	Harris, T.	Galvanometers	Oct. 7, 1890
437,927	Hughes, F. C.	Telephones, supports	Oct. 7, 1890
437,930	Miner, W. M.	Telegraphy, multiplex	Oct. 7, 1890
437,946	Swett, E. A.	Generation, magneto-electric	Oct. 7, 1890

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437,953	Wehrle, J. H	Railways, systems, conduit	Oct. 7, 1890
437,961	Baker, I. F	Railways, systems, overhead, trolleys	Oct. 7, 1890
437,986	Graham, A	Telephones, systems	Oct. 7, 1890
438,003	Knudson, A. A	Conductors	Oct. 7, 1890
438,036	Verstraeete, E	Bridges, girders and columns	Oct. 7, 1890
438,037	Vetter, J. C	Rheostats	Oct. 7, 1890
438,041	Watkins, R. L	Electrodes	Oct. 7, 1890
438,084	McElroy, D. S	Railway signals	Oct. 7, 1890
438,116	Shapleigh, W	Batteries, secondary, applications	Oct. 7, 1890
438,117	Shapleigh, W	Metallurgy, lead	Oct. 7, 1890
438,118	Smith, W. F	Cut-outs, mechanical	Oct. 7, 1890
438,127	Ackerinann, W. J	Alarms, burglar	Oct. 7, 1890
438,134	Apps, A	Lights, filaments and carbons	Oct. 14, 1890
438,145	Currie, S. C. C	Lighting, systems, secondary battery	Oct. 14, 1890
438,167	Marcher, T	Cut-outs, mechanical	Oct. 14, 1890
438,174	Patterson, J. W	Vending apparatus	Oct. 14, 1890
438,192	Shawhan, J. F	Railways, systems, battery	Oct. 14, 1890
438,204	Thomson, E	Regulators	Oct. 14, 1890
438,211	Wirt, H. C	Railways, conductor supports and insulators	Oct. 14, 1890
438,219	Andersen, J. M	Railways, systems, overhead, trolleys	Oct. 14, 1890
438,226	Currie, S. C. C	Galvanometers	Oct. 14, 1890
438,233	Geary, J	Telegraphy, relays and sounders	Oct. 14, 1890
438,234	Geary, J	Alarms, burglar	Oct. 14, 1890
438,236	Hollar, W. H. and Holmes, F. S	Magnetic locks and bolts	Oct. 14, 1890
438,260	Smith, C. W. and Lyons, C. J	Railways, switches, tramway	Oct. 14, 1890
438,262	Wheless, M	Railways, systems, circuits, multiple arc	Oct. 14, 1890
438,293	Sprague, F. J	do	Oct. 14, 1890
438,298	Edison, T. A	Lights, incandescent	Oct. 14, 1890
438,299	Edison, T. A	Lights, filaments and carbons	Oct. 14, 1890
438,301	Edison, T. A	Cut-outs, electro-magnetic	Oct. 14, 1890
438,302	Edison, T. A	Magneto-electric	Oct. 14, 1890
438,303	Edison, T. A	Lights, arc, positive feed, gear-clutch	Oct. 14, 1890
438,304	Edison, T. A	Telephones, calls	Oct. 14, 1890
438,305	Edison, T. A	Cut-outs, thermal	Oct. 14, 1890
438,306	Edison, T. A. and Gilliland, E. T	Telephones, electric	Oct. 14, 1890
438,307	Edison, T. A	Lights, incandescent	Oct. 14, 1890
438,308	Edison, T. A	Systems of distribution	Oct. 14, 1890
438,309	Edison, T. A	Insulating materials	Oct. 14, 1890
438,310	Edison, T. A	Lights, sockets and keys	Oct. 14, 1890
438,311	Enholm, O. A	Insulating materials	Oct. 14, 1890
438,312	Enholm, O. A	Glass and pottery, jars	Oct. 14, 1890
438,313	Enholm, O. A	Insulating materials	Oct. 14, 1890
438,314	Gipperich, A	Clocks, electric	Oct. 14, 1890
438,326	Richardson, G. W	Lighting, systems	Oct. 14, 1890
438,344	Chaize, N. and J	Telegraphy, circuit closers	Oct. 14, 1890
438,357	McMahan, J. M	Separators	Oct. 14, 1890
438,359	Pfingst, L	Railways, systems, overhead, trolleys	Oct. 14, 1890
438,361	Plumb, C	Telegraphy, fire	Oct. 14, 1890
438,390	Stanley, A. F	Annunciators	Oct. 14, 1890
438,394	White, W. R	Cut-outs, thermal	Oct. 14, 1890
438,400	Brennen, G. J	Connectors	Oct. 14, 1890
438,404	Chadbourne, A. H	Railways, systems, overhead, trolleys	Oct. 14, 1890
438,406	Dewey, M. W	Heaters	Oct. 14, 1890
438,407	Dewey, M. W	do	Oct. 14, 1890
438,408	Dewey, M. W	do	Oct. 14, 1890
438,409	Dewey, M. W	do	Oct. 14, 1890
438,431	Collier, J. W	Lights, sockets and keys	Oct. 14, 1890
438,434	Ginochio, N. B	Magneto-electric, hand machines	Oct. 14, 1890
438,452	Van Depoele, C. J	Car brakes	Oct. 14, 1890
438,495	Short, S. H	Insulators	Oct. 14, 1890
438,525	Burton, G. D	Heaters	Oct. 14, 1890
438,530	Crockett, C. H. and Dedrick, L. C	Telegraphy, keys	Oct. 14, 1890
438,532	Currie, S. C. C	Batteries, secondary	Oct. 14, 1890
438,564	Swift, H. E	Railways, systems, telpher, solenoid	Oct. 14, 1890
438,579	Faunce, A. B. and Cabell, S. G	Incrustation	Oct. 14, 1890
438,586	Murphy, R. E	Batteries, galvanic	Oct. 14, 1890
438,590	Woods, G. T	Lighting, systems	Oct. 14, 1890
438,592	Eekert, W. H. and Gregory, W. H	Conductors	Oct. 14, 1890
438,598	Ashton, F. M	Alarms	Oct. 21, 1890
438,602	Bradley, C. S	Magneto-electric	Oct. 21, 1890
438,603	Bradley, C. S	Motors, alternating	Oct. 21, 1890
438,619	Giles, J. E	Lighting, systems	Oct. 21, 1890
438,620	Gillette, H	Railway gates, electric	Oct. 21, 1890
438,631	MacDonald, A. J	Telephones, electric	Oct. 21, 1890
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438,653	Striemer, A	Time alarms	Oct. 21, 1890
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438,698	Menuez, A. E	Insulating materials	Oct. 21, 1890
438,721	Whittingham, G. H	Cut-outs, thermal	Oct. 21, 1890
438,723	Burton, G. D	Heaters	Oct. 21, 1890
438,767	Popp, V	Clocks, pneumatic	Oct. 21, 1890
438,773	Dinn, P. J	Lamp posts	Oct. 21, 1890
438,779	Newton, S. O. and M. A.	Drop lights and hangers	Oct. 21, 1890
438,780	Schmid, F. M	Electro-magnets	Oct. 21, 1890
438,784	Stut, J. C. H	Telephones, electric	Oct. 21, 1890
438,788	White, A. C	Telegraphy, lightning arresters	Oct. 21, 1890
438,814	Kerstein, M	Lighting, systems	Oct. 21, 1890
438,818	McDonough, J. W	Telephones, electric	Oct. 21, 1890
438,827	Reynier, E. N	Batteries, secondary	Oct. 21, 1890
438,828	Richards, W. L	Telephones, magnetic	Oct. 21, 1890
438,837	Buchanan, G	Motors	Oct. 21, 1890
438,847	Hunter, R. M	Railways, systems, overhead	Oct. 21, 1890
438,870	Todd, A. E	Railways, systems, trolley, solenoid	Oct. 21, 1890
438,882	Frey, C. P	Galvanometers	Oct. 21, 1890
438,891	Linn, S. H	Lights, incandescent, special features	Oct. 21, 1890
438,894	Marcy, H. W	Railways, systems, overhead	Oct. 21, 1890
438,897	Richards, F. H	Separators	Oct. 21, 1890
438,934	Miro, F	Cut-outs, mechanical	Oct. 21, 1890
438,932	Beach, F. G	Telephones, systems	Oct. 21, 1890
439,011	Kent, J	Lights, are, positive feed, gear-clutch	Oct. 21, 1890
439,015	Kirwan, G. H	Station indicators	Oct. 21, 1890
439,017	Langdon-Davies, C	Telegraphy, reed	Oct. 21, 1890
439,023	Matson, D. B	Drop lights and hangers	Oct. 21, 1890
439,042	Stanley, W., Jr	Motors, alternating	Oct. 21, 1890
439,047	Wollin, W. F. and Werline, E. H	Lights, sockets and keys	Oct. 21, 1890
439,055	Von Derschau, A	Fire arms, locks	Oct. 21, 1890
439,069	Hunter, R. M	Railways, systems, conduit	Oct. 21, 1890
439,070	Hunter, R. M	Railways, systems, circuits, multiple arc	Oct. 21, 1890
439,092	Bardwell, A. F	Railways, systems, overhead, trolleys	Oct. 28, 1890
439,102	Bradley, C. S	Motors, alternating	Oct. 28, 1890
439,151	Hellesen, W. L. F	Batteries, galvanic	Oct. 28, 1890
439,178	Pauthonier, C	Lights, incandescent	Oct. 28, 1890
439,180	Perkins, F. B	Applications, tools and machines	Oct. 28, 1890
439,182	Pfingst, L	Railways, systems, overhead, trolleys	Oct. 28, 1890
439,192	Rowell, B. C. and Galloupe, F. E	do	Oct. 28, 1890
439,200	Shanck, H. K	Air and gas engines, explosive	Oct. 28, 1890
439,213	Veeder, C. H	Applications, tools and machines	Oct. 28, 1890
439,232	Baldwin, C. W	Air and gas engines, explosive	Oct. 28, 1890
439,237	Corning, F. G	Railways, systems, battery	Oct. 28, 1890
439,238	Faught, L. A	Dental instruments	Oct. 28, 1890
439,240	Gibson, C. D. P	Batteries, secondary	Oct. 28, 1890
439,262	Westerland, L	Railways, systems, conduit	Oct. 28, 1890
439,295	Fraser, W. J	Recorders	Oct. 28, 1890
439,301	Mehren, J. F	Batteries, secondary	Oct. 28, 1890
439,304	Phillips, J. O	Lights, sockets and keys	Oct. 28, 1890
439,308	Slocum, G. S	Railways, systems, overhead, trolleys	Oct. 28, 1890
439,324	Mason, E. J	Batteries, secondary	Oct. 28, 1890
439,345	Dean, F. W	Electric locomotives	Oct. 28, 1890
439,347	Fields, J. F	Medical and surgical, body-wear	Oct. 28, 1890
439,363	Swan, A	Lights, sockets and keys	Oct. 28, 1890
439,364	Swan, A	do	Oct. 28, 1890
439,365	Swan, A	do	Oct. 28, 1890
439,366	Swan, A	do	Oct. 28, 1890
439,367	Swan, A	do	Oct. 28, 1890
439,381	Bristol, W. H	Meters	Oct. 28, 1890
439,389	Edison, T. A	Lighting, systems	Oct. 28, 1890
439,390	Edison, T. A	Lighting, systems, secondary battery	Oct. 28, 1890
439,391	Edison, T. A	Conductors, underground	Oct. 28, 1890
439,392	Edison, T. A	Lighting, systems	Oct. 28, 1890
439,393	Edison, T. A	Lights, filaments and carbons	Oct. 28, 1890
439,395	Fleischer, R. J	Railways, systems, battery	Oct. 28, 1890
439,398	Goddard, C	Cut-outs, thermal	Oct. 28, 1890
439,409	Lattig, J. W	Railway signals	Oct. 28, 1890
439,416	Morrison, W. and Schmidt, L	Batteries, secondary	Oct. 28, 1890
439,417	Morrison, W	Regulators	Oct. 28, 1890
439,428	Richter, C	Railways, systems, circuits, series	Oct. 28, 1890
439,441	Summerskill, C. W	Telegraphy, circuit closers, thermal	Oct. 28, 1890
439,445	Tushingham, F. G. and Dnbois, H	Steam valves, throttle	Oct. 28, 1890
439,459	Ziperowsky, C., Déri, M. and Bláthy, O. T	Motors, alternating	Oct. 28, 1890
439,477	Coffin, C. L	Vending apparatus	Oct. 28, 1890
439,478	Coffin, C. L	do	Oct. 28, 1890

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439,516	Hussey, C. A	Batteries, galvanic	Oct. 28, 1890
439,577	Dewey, M. W	Applications, tools and machines	Oct. 28, 1890
439,584	Wagemann, E	Electric locomotives	Oct. 28, 1890
439,594	Hollingshead, W. B	Batteries, secondary	Oct. 28, 1890
439,597	Hunter, R. M	Railways, systems, conduit	Oct. 28, 1890
439,602	McGregor, J. A. K	Cut-outs, mechanical	Oct. 28, 1890
439,614	Vaughn, B. E	Bells	Oct. 28, 1890
439,662	Hunter, R. M	Railways, systems, overhead	Nov. 4, 1890
439,724	Drew, C. W. and Francis, E. R	Heaters	Nov. 4, 1890
439,726	Elliott, G. R	Store service, gravity	Nov. 4, 1890
439,737	Weston, E	Batteries, galvanic	Nov. 4, 1890
439,746	Emmet, W. Le R	Railways, systems, overhead	Nov. 4, 1890
439,775	Gartner, A	Regulators	Nov. 4, 1890
439,792	Storey, I. E	Pumps, double piston	Nov. 4, 1890
439,796	Bottome, T. D	Insulating materials	Nov. 4, 1890
439,838	Dyson, J. H	Clocks, electric	Nov. 4, 1890
439,840	Granville, W. P	Ship's logs	Nov. 4, 1890
439,850	Woolf, A. E	Batteries, secondary	Nov. 4, 1890
439,859	Bosser, W. F	Cut-outs, thermal	Nov. 4, 1890
439,867	Dewey, M. W	Railways, systems, circuits, series	Nov. 4, 1890
439,904	Shubert, H. C	Lights, arc, positive feed, clutch	Nov. 4, 1890
439,906	Sprague, W. B. and Kellogg, C. W	Railway signals	Nov. 4, 1890
439,916	Whittlesey, J. T	Railways, systems, overhead, trolleys	Nov. 4, 1890
439,929	Child, C. T	Magneto-electric, couplings	Nov. 4, 1890
439,939	Gilbert, E. R	Rheostats	Nov. 4, 1890
439,941	Goldstone, L	Indicators	Nov. 4, 1890
439,959	Kohrn, W. A. J	Telegraphy, keys	Nov. 4, 1890
439,974	McGahan, F. L	Magneto-electric	Nov. 4, 1890
440,013	Chatfield, L. O	Telegraphy, fire, alarms and extinguishers	Nov. 4, 1890
440,015	Pierce, F	Alarms, burglar	Nov. 4, 1890
440,016	Cleaver, F. J. and Fassold, G	Regulators	Nov. 4, 1890
440,023	Entz, J. B. and Phillips, W. A	Batteries, secondary	Nov. 4, 1890
440,024	Entz, J. B. and Phillips, W. A	do	Nov. 4, 1890
440,042	Kessler, W	Insulators	Nov. 4, 1890
440,070	Von Syo, E	Separators	Nov. 4, 1890
440,071	Talmage, C. H	Heaters	Nov. 4, 1890
440,091	Tinning, F. T. and W. K. S	Telephones, supports	Nov. 4, 1890
440,096	Bergmann, S	Telephones, electric	Nov. 4, 1890
440,106	Hoyt, L. S	Railways, systems, overhead, trolleys	Nov. 4, 1890
440,115	Pierce, F	Alarms, burglar	Nov. 4, 1890
440,118	Root, H. C	Telephones, systems	Nov. 4, 1890
440,164	Keely, D. H	Telegraphy, circuits and systems	Nov. 11, 1890
440,165	Keely, D. H	Telegraphy, multiplex	Nov. 11, 1890
440,173	Macdonald, A. J	Alloys	Nov. 11, 1890
440,175	Marx, F	Batteries, secondary	Nov. 11, 1890
440,189	Peckham, E	Electric locomotives	Nov. 11, 1890
440,199	Rosebrugh, A. M	Telegraphy, circuits and systems	Nov. 11, 1890
440,208	Vanderhoef, G. N	Indicators	Nov. 11, 1890
440,210	Weed, E. B	Batteries, secondary	Nov. 11, 1890
440,213	Wheless, M	Railways, systems, circuits, multiple arc	Nov. 11, 1890
440,216	Woolf, A. E	Batteries, secondary	Nov. 11, 1890
440,224	De Ferranti, S. Z	Systems of distribution	Nov. 11, 1890
440,241	Schlegel, H. T	Clocks, electric	Nov. 11, 1890
440,242	Wagg, S. R	Paper making, digesters	Nov. 11, 1890
440,268	Payen, C	Metallurgy, lead	Nov. 11, 1890
440,269	Payen, C	do	Nov. 11, 1890
440,270	Payen, C	do	Nov. 11, 1890
440,271	Payen, C	do	Nov. 11, 1890
440,272	Payen, C	do	Nov. 11, 1890
440,273	Payen, C	do	Nov. 11, 1890
440,274	Payen, C	do	Nov. 11, 1890
440,275	Payen, C	do	Nov. 11, 1890
440,276	Payen, C	do	Nov. 11, 1890
440,277	Payen, C	do	Nov. 11, 1890
440,289	Weston, E	Galvanometers	Nov. 11, 1890
440,290	Weston, E	do	Nov. 11, 1890
440,291	Weston, E	do	Nov. 11, 1890
440,303	Bush, A. R	Cut-outs, mechanical	Nov. 11, 1890
440,326	Richards, W. S	Lighting, systems	Nov. 11, 1890
440,361	McManman, J. A	Cut-outs, thermal	Nov. 11, 1890
440,362	Nourse, J. K. P	Railways, systems, battery	Nov. 11, 1890
440,375	Smith, F. S	Organ bellows	Nov. 11, 1890
440,384	Wirt, C	Rheostats	Nov. 11, 1890
440,391	Blaisdell, F. E	Insulating materials	Nov. 11, 1890
440,395	Cobb, H. B	Vulcanizing apparatus	Nov. 11, 1890
440,420	Cohlman, W	Batteries, galvanic	Nov. 11, 1890
440,424	Freeman, W. K	Magneto-electric	Nov. 11, 1890

No.	NAME.	CLASS.	DATE.
440,425	Freeman, W. K.	Magneto-electric	Nov. 11, 1890
440,431	Marès, E.	Meters	Nov. 11, 1890
440,441	Swartz, F.	Clocks, electric	Nov. 11, 1890
440,502	Ramsey, J., jr. and Weir, F. C.	Railway signals	Nov. 11, 1890
440,503	Ramsey, J., jr. and Weir, F. C.	do	Nov. 11, 1890
440,505	Renault, B. and Desvernay, M.	Batteries, secondary	Nov. 11, 1890
440,508	Sargent, F.	Telegraphy, railway-car	Nov. 11, 1890
440,534	Bettendorf, W. P. and J. W.	Heaters	Nov. 11, 1890
440,557	Freeman, W. K.	Magneto-electric	Nov. 11, 1890
440,563	Hale, G. C. and Barret, A.	Telegraphy, fire	Nov. 11, 1890
440,575	Payen, C.	Lead	Nov. 11, 1890
440,584	Brooks, H. H.	Railways, systems, overhead, trolleys	Nov. 11, 1890
440,590	Hardy, F. D.	Regulators	Nov. 11, 1890
440,595	Hunter, R. M.	Railways, systems, overhead	Nov. 11, 1890
440,596	Hunter, R. M.	Railways, systems, conduit	Nov. 11, 1890
440,597	Hunter, R. M.	do	Nov. 11, 1890
440,604	Nutting, S. E.	Lights, arc, positive feed	Nov. 11, 1890
440,614	Barberie, E. T. and Des Brisay, J.	Cut-outs, mechanical	Nov. 18, 1890
440,627	De Ferranti, S. Z.	Meters	Nov. 18, 1890
440,640	Lemp, H.	Heaters	Nov. 18, 1890
440,641	Lemp, H.	do	Nov. 18, 1890
440,654	Rice, E. W.	Telegraphy, lightning arresters	Nov. 18, 1890
440,662	Thomson, E. and Rice, E. W.	Lights, arc, gravity feed, clutch	Nov. 18, 1890
440,663	Thomson, E. and Rice, E. W.	do	Nov. 18, 1890
440,664	Thomson, E.	Heaters	Nov. 18, 1890
440,665	Thomson, E.	Railways, systems, overhead, trolleys	Nov. 18, 1890
440,685	Alton, G. H. and Rice, E. W.	Cut-outs, thermal	Nov. 18, 1890
440,686	Baker, I. F.	Electric locomotives	Nov. 18, 1890
440,689	Belding, W. S.	do	Nov. 18, 1890
440,691	Brown, H. P.	Magneto-electric	Nov. 18, 1890
440,699	Dressler, C. E.	Motors	Nov. 18, 1890
440,700	Dressler, C. E.	Inductoriums, transformers, rotary	Nov. 18, 1890
440,717	Mower, S. E.	Electric locomotives	Nov. 18, 1890
440,718	Mower, S. E.	do	Nov. 18, 1890
440,720	Pfingier, C. A.	Cut-outs, mechanical	Nov. 18, 1890
440,733	Bathurst, F.	Lights, incandescent, special features	Nov. 18, 1890
440,759	Lemp, H.	Lights, filaments and carbons	Nov. 18, 1890
440,766	Delany, P. B.	Telegraphy, multiplex	Nov. 18, 1890
440,767	Delany, P. B.	do	Nov. 18, 1890
440,768	Delany, P. B.	do	Nov. 18, 1890
440,776	Pullman, H. B.	Motors	Nov. 18, 1890
440,780	Verstraete, E.	Railways, systems, conduit	Nov. 18, 1890
440,781	Verstraete, E.	do	Nov. 18, 1890
440,789	Cushing, R. D.	Railways, systems, overhead, trolleys	Nov. 18, 1890
440,813	Von Kohler, H.	Telegraphy, circuit closers	Nov. 18, 1890
440,814	Lieb, C. A.	Railways, systems, overhead, trolleys	Nov. 18, 1890
440,817	Rae, F. B.	Magneto-electric	Nov. 18, 1890
440,821	Bock, L., jr.	Motors, reciprocating	Nov. 18, 1890
440,822	Bremer, W. G.	Railways, systems, closed conduit	Nov. 18, 1890
440,845	Herrick, C. H.	Cut-outs, mechanical	Nov. 18, 1890
440,881	Loomis, T. F.	Railway signals	Nov. 18, 1890
440,898	McManman, J. A.	Telephones, calls	Nov. 18, 1890
440,906	Trott, S.	Railways, systems, conduit	Nov. 18, 1890
440,908	Andersen, F. V. and Girdlestone, J. O.	Magneto-electric	Nov. 18, 1890
440,925	Riggs, J. W.	Railway signals	Nov. 18, 1890
440,926	Riggs, J. W.	do	Nov. 18, 1890
440,927	Riggs, J. W.	do	Nov. 18, 1890
440,934	Tompkins, D. A.	Lights, incandescent, special features	Nov. 18, 1890
440,976	Van Depoele, C. J.	Railways, systems	Nov. 18, 1890
440,977	Van Depoele, C. J.	Transmission of power	Nov. 18, 1890
441,030	Sheldon, W. D.	Railway signals	Nov. 18, 1890
441,031	Sheldon, W. D.	do	Nov. 18, 1890
441,032	Sheldon, W. D.	Railway gates, electric	Nov. 18, 1890
441,033	Sheldon, W. D.	Railway signals	Nov. 18, 1890
441,034	Sheldon, W. D.	do	Nov. 18, 1890
441,043	Verstraete, E.	Conductors, underground	Nov. 18, 1890
441,044	Waddell, W. H.	Railway signals	Nov. 18, 1890
441,059	Collier, J. W.	Lights, sockets and keys	Nov. 18, 1890
441,060	Conkling, G.	Separators	Nov. 18, 1890
441,066	Hayes, H. V.	Cut-outs, thermal	Nov. 18, 1890
441,122	Bassett, N. C.	Railways, systems, overhead, trolleys	Nov. 25, 1890
441,123	Bassett, N. C.	do	Nov. 25, 1890
441,127	Bornholdt, A.	Lights, incandescent	Nov. 25, 1890
441,128	Bornholdt, A.	do	Nov. 25, 1890
441,130	Brewer, H. J.	Batteries, galvanic	Nov. 25, 1890
441,157	Hale, C. A.	Annunciators	Nov. 25, 1890
441,158	Harbeck, W. H.	Photography, combined apparatus	Nov. 25, 1890

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441,165	Johns, H. W	Boiler coverings	Nov. 25, 1890
441,210	Wheless, M	Railways, systems, conduit	Nov. 25, 1890
441,211	Wheless, M	Railways, systems, circuits, multiple arc	Nov. 25, 1890
441,212	Wheless, M	Railways, systems, conduit	Nov. 25, 1890
441,213	Wheless, M	Electric locomotives	Nov. 25, 1890
441,214	Wheless, M	Railways, systems, closed conduit	Nov. 25, 1890
441,215	Wheless, M	Car brakes	Nov. 25, 1890
441,216	Wheless, M	Railways, systems, closed conduit	Nov. 25, 1890
441,217	Wheless, M	Railways, systems, circuits	Nov. 25, 1890
441,218	Wheless, M	Railways, systems, circuits, multiple arc	Nov. 25, 1890
441,219	Wheless, M	do	Nov. 25, 1890
441,220	Wheatley, S. E	Railways, systems, conduit	Nov. 25, 1890
441,221	Wheatley, S. E	Magneto-electric	Nov. 25, 1890
441,246	Lieb, C. A	Drop lights and hangers	Nov. 25, 1890
441,248	Lynch, T. J	Railways, systems, telpher, solenoid	Nov. 25, 1890
441,250	Manaydier, J. E	Magneto-electric	Nov. 25, 1890
441,256	Reese, T., jr	Railroads, systems, conduit	Nov. 25, 1890
441,258	Seibert, N	Slidable pusher, coin engaged	Nov. 25, 1890
441,259	Sylvester, P. L	Forging and welding	Nov. 25, 1890
441,276	Bayles, J. C	Metal working, tubes	Nov. 25, 1890
441,277	Bayles, J. C	Rheostats	Nov. 25, 1890
441,293	Doyle, J	Annunciators	Nov. 25, 1890
441,304	Holtzer, C. W	Railways, systems, battery	Nov. 25, 1890
441,305	Hunter, R. M	Conductors, supports and insulators	Nov. 25, 1890
441,312	Marks, W. B., Lauer, J. G. and Ralston, R. R.	Electric locomotives	Nov. 25, 1890
441,330	Schleschinger, W. M	Magneto-electric	Nov. 25, 1890
441,391	Brown, C. E. L	Telephones, magnetic	Nov. 25, 1890
441,396	Capps, F. L	Heaters	Nov. 25, 1890
441,401	Dewey, M. W	Batteries, galvanic	Nov. 25, 1890
441,403	Enholm, O. A	Batteries, secondary	Nov. 25, 1890
441,413	Hatch, G. E	Printing, hand stamps	Nov. 25, 1890
441,430	Mallonee, J. D	Igniting devices, automatic	Nov. 25, 1890
441,458	White, Le R. S	Magneto-electric	Nov. 25, 1890
441,487	Harrington, W. E	Pyrometers	Nov. 25, 1890
441,488	Hensley, W. S. and Grindley, W. H	Systems of distribution	Nov. 25, 1890
441,542	Enholm, O. A	Lights, arc, gravity feed, clutch	Nov. 25, 1890
441,543	Enholm, O. A	Electric locomotives	Nov. 25, 1890
441,565	Hunter, R. M	Railways, systems, conduit	Nov. 25, 1890
441,571	Libbey, H. W	do	Nov. 25, 1890
441,572	Libbey, H. W	Ship's logs	Nov. 25, 1890
441,578	O'Neil, J	Compasses	Nov. 25, 1890
441,579	O'Neil, J	Cut-outs, mechanical	Nov. 25, 1890
441,588	Schultz, G	Dampers, automatic	Nov. 25, 1890
441,591	Snyder, J. M	Telegraphy, circuit closers, thermal	Nov. 25, 1890
441,622	Shaffer, C. H	Stovepipe thimbles	Dec. 2, 1890
441,644	Conderman, G. W	Regulators	Dec. 2, 1890
441,665	Hyer, W. E	Magneto-electric	Dec. 2, 1890
441,695	Patterson, W. S	Railway signals	Dec. 2, 1890
441,703	Riggs, J. W	Dampers, automatic	Dec. 2, 1890
441,745	Butz, A. M	Railways, systems, overhead, trolleys	Dec. 2, 1890
441,753	Emmett, W. Le R	Railways, systems, conduit	Dec. 2, 1890
441,764	Jones, H	Electric locomotives	Dec. 2, 1890
441,771	Mansfield, F	Railway signals	Dec. 2, 1890
441,773	Owen, R. O	Magneto-electric	Dec. 2, 1890
441,793	Freeman, W. K	Regulators	Dec. 2, 1890
441,794	Freeman, W. K	Conductors, supports and insulators	Dec. 2, 1890
441,800	Kitfield, E. H	Regulators	Dec. 2, 1890
441,807	Pepper, D., jr	Valve-controllers	Dec. 2, 1890
441,817	Bell, L. and Root, T. H	Batteries, secondary	Dec. 2, 1890
441,818	Bradbury, J. Y. and Stone, F. J	Railways, systems	Dec. 2, 1890
441,828	Dewey, M. W	Conductors	Dec. 2, 1890
441,837	Greenfield, E. T	Rheostats	Dec. 2, 1890
441,838	Greenfield, E. T	Conductors, underground	Dec. 2, 1890
441,840	Greenfield, E. T	Batteries, galvanic	Dec. 2, 1890
441,843	Hoy, A. H	Telegraphy, circuits and systems	Dec. 2, 1890
441,847	Jones, F. W	Insulators	Dec. 2, 1890
441,849	Locke, F. M. and Lapp, J	Fluid delivery	Dec. 2, 1890
441,861	Van Sant, W. S. and Eames, E. C	Lights, incandescent, special features	Dec. 2, 1890
441,877	Lewis, F	Electro-deposition	Dec. 2, 1890
441,892	Possons, W. J	do	Dec. 2, 1890
441,893	Possons, W. J	Time alarms	Dec. 2, 1890
441,894	Possons, W. J	Rheostats	Dec. 2, 1890
441,908	Tiedemann, M. W	Connectors	Dec. 2, 1890
441,918	Ames, T. K	Cut-outs, thermal	Dec. 2, 1890
441,919	Banta, W. E	Motors	Dec. 2, 1890
441,933	Cartwright, D. J		
441,953	Groswith, H		

No.	NAME.	CLASS.	DATE.
441,954	Groswith, H.	Motors	Dec. 2, 1890
441,958	Kennedy, C. W. and Groswith, H.	Batteries, galvanic	Dec. 2, 1890
441,959	Kennedy, C. W.	Batteries, secondary	Dec. 2, 1890
441,967	De Peralta, C. G.	Batteries, galvanic	Dec. 2, 1890
441,972	Rapieff, J.	Distance instruments	Dec. 2, 1890
441,973	Rapieff, J.	do	Dec. 2, 1890
441,974	Rapieff, J.	do	Dec. 2, 1890
441,982	Simpson, I. H.	Alarms	Dec. 2, 1890
441,999	Wood, J. J.	Telegraphy, lightning arresters	Dec. 2, 1890
442,002	Adams, A. W.	Railways, systems, overhead, trolleys	Dec. 2, 1890
442,018	Crampton, T. P. C.	Lights, arc, gravity feed, clutch	Dec. 2, 1890
442,029	Fisher, F. E.	Annunciators	Dec. 2, 1890
442,030	Fisher, F. E.	Cut-outs, mechanical	Dec. 2, 1890
442,053	Jewell, R.	Measuring vessels	Dec. 2, 1890
442,071	Mino, J.	Lamps and gas fittings, guards	Dec. 2, 1890
442,104	Conley, M.	Indicators	Dec. 9, 1890
442,114	Gillette, H.	Railway gates, electric	Dec. 9, 1890
442,115	Groth, L. A.	Tanning processes	Dec. 9, 1890
442,126	Locke, S. D.	Recorders	Dec. 9, 1890
442,127	Lounsbury, J. A.	Lights, arc, special features	Dec. 9, 1890
442,139	Rosebrugh, A. M.	Anti-induction devices	Dec. 9, 1890
442,140	Sabold, F. W.	Railways, systems	Dec. 9, 1890
442,143	Scribner, C. E.	Telephones, systems	Dec. 9, 1890
442,144	Scribner, C. E.	do	Dec. 9, 1890
442,145	Scribner, C. E.	do	Dec. 9, 1890
442,146	Scribner, C. E.	do	Dec. 9, 1890
442,155	Virtue, G. F.	Applications, tools and machines	Dec. 9, 1890
442,162	Young, H. H.	Conductors, underground	Dec. 9, 1890
442,173	Dressler, C. E.	Magneto-electric	Dec. 9, 1890
442,187	Johnston, J. G.	Batteries, secondary	Dec. 9, 1890
442,203	Roberts, I. L.	do	Dec. 9, 1890
442,204	Roberts, I. L.	do	Dec. 9, 1890
442,208	Schiffmann, W. W.	Motors	Dec. 9, 1890
442,232	Mansfield, F.	Railways, conductor supports and insulators	Dec. 9, 1890
442,267	Ives, E. B.	Telegraphy, multiplex	Dec. 9, 1890
442,270	Marshall, N.	Gas fittings	Dec. 9, 1890
442,287	Hunt, G. W. and Rich, A. E.	Lights, sockets and keys	Dec. 9, 1890
442,332	Roberts, I. L.	Electrolysis	Dec. 9, 1890
442,333	Roberts, I. L.	do	Dec. 9, 1890
442,334	Roberts, I. L.	do	Dec. 9, 1890
442,335	Roberts, I. L.	Paper making, fabrics	Dec. 9, 1890
442,336	Roberts, I. L.	Batteries, galvanic	Dec. 9, 1890
442,338	Schreuder, J. G.	Telegraphy, relays and sounders	Dec. 9, 1890
442,339	Schreuder, J. G.	Railway signals	Dec. 9, 1890
442,342	Vaughn, J. W.	Telephones, systems	Dec. 9, 1890
442,347	Arnold, C. R.	Telegraphy, railway car	Dec. 9, 1890
442,365	Dewey, M. W.	Railways, systems	Dec. 9, 1890
442,370	Garland, W. H.	Connectors	Dec. 9, 1890
442,383	Merrifield, P. V.	Telegraphy, fire	Dec. 9, 1890
442,385	Nen, G. S.	Telegraphy, fire, alarms and extinguishers	Dec. 9, 1890
442,390	Pumpelly, J. K.	Batteries, secondary	Dec. 9, 1890
442,391	Pumpelly, J. K.	do	Dec. 9, 1890
442,396	Roberts, I. L.	Electrolysis	Dec. 9, 1890
442,407	Wightman, M. J.	Railways, systems, circuits, multiple arc	Dec. 9, 1890
442,415	Brady, T. H.	Block and tackle	Dec. 9, 1890
442,423	Currie, S. C. C.	Galvanometers	Dec. 9, 1890
442,446	Luscomb, H. H.	Railways, conductor supports and insulators	Dec. 9, 1890
442,451	Paiste, H. T.	Lights, incandescent, special features	Dec. 9, 1890
442,452	Paiste, H. T.	do	Dec. 9, 1890
442,459	Schmid, A.	Electric locomotives	Dec. 9, 1890
442,472	Batchelder, G. L.	Drop lights and hangers	Dec. 9, 1890
442,473	Beers, C. B. and Tuttle, W. B.	Bells	Dec. 9, 1890
442,497	Taylor, W. W.	Telegraphy, printing	Dec. 9, 1890
442,501	Wood, J. J.	Meters	Dec. 9, 1890
442,516	Dutton, C. E., jr.	Batteries, galvanic	Dec. 9, 1890
442,575	Eckert, W. H. and Gregory, W. H.	Lighting, systems	Dec. 9, 1890
442,577	Fraser, W. S.	Lamp shades	Dec. 9, 1890
442,580	Henderson, W. B.	Lights, arc, gravity feed, gear-clutch	Dec. 9, 1890
442,588	Marshall, N.	Cut-outs, mechanical	Dec. 9, 1890
442,594	Roberts, I. L.	Electrolysis	Dec. 9, 1890
442,610	Casper, L.	Indicators	Dec. 16, 1890
442,617	Giles, J. E.	Lights, arc, gravity feed, gear-clutch	Dec. 16, 1890
442,623	Hopson, R. C.	Railways, systems, overhead	Dec. 16, 1890
442,649	Talmage, C. H.	Heaters	Dec. 16, 1890
442,654	Weyburn, E. D.	Applications, tools and machines	Dec. 16, 1890
442,661	Bottome, T. D.	Electrolysis	Dec. 16, 1890
442,666	Gunn, J.	Lights, incandescent, special features	Dec. 16, 1890

No.	NAME.	CLASS.	DATE.
442,668	Rice, E. W., jr	Regulators	Dec. 16, 1890
442,685	Moore, J. B	Lights, incandescent, special features	Dec. 16, 1890
442,705	Meston, A. W	Meters	Dec. 16, 1890
442,734	Smith, J. R. and Childs, W	Telephones, systems, automatic	Dec. 16, 1890
442,744	Stephenson, J	Railways, systems, battery	Dec. 16, 1890
442,746	Bush, A. R	Lights, incandescent, special features	Dec. 16, 1890
442,796	Burgess, N	Theater appliances	Dec. 16, 1890
442,797	Burgess, N	do	Dec. 16, 1890
442,799	Carr, R. S	Telephones, mechanical	Dec. 16, 1890
442,800	Colby, C. A	Cut-outs, mechanical	Dec. 16, 1890
442,808	Hunimel, A. G. and Graham, F. A	Telegraphy, circuits and systems	Dec. 16, 1890
442,816	Morgan, R. A., jr	Cut-outs, mechanical	Dec. 16, 1890
442,843	Weston, E	Galvanometers	Dec. 16, 1890
442,849	Bellussich, J	Recorders	Dec. 16, 1890
442,856	Carty, J. J	Anti-induction devices	Dec. 16, 1890
442,868	Du Bois, J. S	Conductors, underground	Dec. 16, 1890
442,870	Edgerton, N. H	Magneto-electric	Dec. 16, 1890
442,879	Haight, H. J	Thermometers	Dec. 16, 1890
442,880	Haight, H. J	Indicators	Dec. 16, 1890
442,881	Haight, H. J	do	Dec. 16, 1890
442,882	Haight, H. J	do	Dec. 16, 1890
442,883	Haight, H. J	do	Dec. 16, 1890
442,932	Abshagen, E	Heaters	Dec. 16, 1890
442,933	Abshagen, E	do	Dec. 16, 1890
442,954	Coffin, C. L	do	Dec. 16, 1890
442,956	Conroy, T. and Fuhrman, L. P	Steam valves, throttle	Dec. 16, 1890
442,969	Fitz-Gerald, D. G. and Hough, A. H	Batteries, secondary	Dec. 16, 1890
442,996	O'Brien, J	Telephones, switch-boards	Dec. 16, 1890
443,004	Ramsey, W. M	Railways, systems, trolleys	Dec. 16, 1890
443,005	Ramsey, W. M	Railways, conductor supports and insulators	Dec. 16, 1890
443,019	Van Depoele, C. J	Electric locomotives	Dec. 16, 1890
443,042	Finney, G. S	Separators	Dec. 16, 1890
443,043	Finney, G. S	do	Dec. 16, 1890
443,044	Finney, G. S	do	Dec. 16, 1890
443,048	Hodges, N. D. C	Lightning rods	Dec. 16, 1890
443,068	Cartwright, D. G. and Potter, J. S	Lights, incandescent, special features	Dec. 16, 1890
443,074	Depp, O. J. and Munn, S. J	Railway signals	Dec. 16, 1890
443,081	Jones, J	Railways, systems, overhead	Dec. 16, 1890
443,084	Bentley, E. M	Railways, systems, closed conduit	Dec. 23, 1890
443,097	Kim, G. M	Drop lights and hangers	Dec. 23, 1890
443,111	Rae, F. B	Telegraphy, printing	Dec. 23, 1890
443,134	Essick, S. V. B	do	Dec. 23, 1890
443,135	Essick, S. V. B	do	Dec. 23, 1890
443,136	Essick, S. V. B	do	Dec. 23, 1890
443,145	McQuarrie, J. L	Telephones, systems	Dec. 23, 1890
443,149	Powell, S. L	Railway signals	Dec. 23, 1890
443,157	Wyckoff, A. B	Lighting, systems	Dec. 23, 1890
443,167	Powell, S. L	Railway signals	Dec. 23, 1890
443,169	Simpson, J. T	Lamp shades	Dec. 23, 1890
443,174	Eminet, W. Le R	Railways, conductor supports and insulators	Dec. 23, 1890
443,181	Rowland, H. A. and Duncan, L	Batteries, secondary, applications	Dec. 23, 1890
443,182	Ruddick, J. J	Telegraphy, fire	Dec. 23, 1890
443,187	Bain, F	Insulators	Dec. 23, 1890
443,195	Mingle, G. W	Cut-outs, electro-magnetic	Dec. 23, 1890
443,219	Brewer, H. J	Batteries, galvanic	Dec. 23, 1890
442,224	Lemp, H	Heaters	Dec. 23, 1890
443,226	Pratt, J. L	Medical and surgical, body-wear	Dec. 23, 1890
443,227	Riker, A. L	Electric locomotives	Dec. 23, 1890
443,237	Heppell, R. W	Painting machines	Dec. 23, 1890
443,270	Cummings, G. P	Curved surfaces, metal	Dec. 23, 1890
443,278	Hanson, E. H	Stereotype plate holders	Dec. 23, 1890
443,282	Holmes, H. E. and Grosvenor, C. F	Applications, general	Dec. 23, 1890
443,283	Holmes, H. E. and Grosvenor, C. F	Applications, tools and machines	Dec. 23, 1890
443,291	Mayrhofer, C	Electric clocks	Dec. 23, 1890
443,360	Edson, J. B	Recorders	Dec. 23, 1890
443,381	Smith, S. W	Telegraphy, transmitters	Dec. 23, 1890
443,404	Potter, J. S. and Cartwright, D. J	Lights, sockets and keys	Dec. 23, 1890
443,407	Scheuritzel, C. P. and Hess, J. L	Magneto-electric	Dec. 23, 1890
443,435	Fuller, I. D	Time checks	Dec. 23, 1890
443,451	Hunter, R. M	Railways, systems, closed conduit	Dec. 23, 1890
443,452	Hunter, R. M	Railways, systems, overhead, trolleys	Dec. 23, 1890
443,454	Kitsee, J	Batteries, secondary	Dec. 23, 1890
443,455	Kitsee, I	do	Dec. 23, 1890
443,456	Kitsee, I	do	Dec. 23, 1890
443,457	Kitsee, I	do	Dec. 23, 1890
443,464	Sedgwick, F	Tempering and annealing	Dec. 23, 1890
443,475	Bundy, W. L	Cash indicators	Dec. 23, 1890

No.	NAME.	CLASS.	DATE.
443,478	Feeary, F. T. and Speicher, J.	Telegraphy, fire	Dec. 23, 1890
443,493	Bergmann, S.	Telephones, magnetic	Dec. 30, 1890
443,494	Bergmann, S.	Telephones, electric	Dec. 30, 1890
443,497	Bremer, W. G.	Cut-outs, thermal	Dec. 30, 1890
443,508	Emmet, W. Le R.	Railways, conductor supports and insulators	Dec. 30, 1890
443,526	Johnson, E. H.	Telephones, electric	Dec. 30, 1890
443,527	Jones, F. W.	Lighting, systems	Dec. 30, 1890
443,530	Lieb, C. A.	Lights, sockets and keys	Dec. 30, 1890
443,536	Norman, T. W.	Wire	Dec. 30, 1890
443,551	Stillman, F. H.	Lead pipe making	Dec. 30, 1890
443,556	Wardwell, H. H.	Batteries, secondary	Dec. 30, 1890
443,557	Whitecomb, A. W.	Lights, arc, gravity feed, gear-clutch	Dec. 30, 1890
443,562	Bergmann, S.	Lights, sockets, and keys	Dec. 30, 1890
443,563	Bergmann, S.	Shade supports	Dec. 30, 1890
443,565	Bremer, W. G.	Cut-outs, thermal	Dec. 30, 1890
443,580	Lyke, N.	Medical and surgical, baths	Dec. 30, 1890
443,593	Langstaffe, J.	Inerstation	Dec. 30, 1890
443,606	Johnson, E. H.	Lighting, systems	Dec. 30, 1890
443,632	Heymann, E. and F. W.	Lights, arc, gravity feed, clutch	Dec. 30, 1890
443,633	Heymann, E. and F. W.	do	Dec. 30, 1890
443,636	Faure, C. A.	Meters	Dec. 30, 1890
443,642	Elieson, C. P.	do	Dec. 30, 1890
443,646	Kilbourn, W. H.	Applications, tools and machines	Dec. 30, 1890
443,661	Hunter, R. M.	Car brakes	Dec. 30, 1890
443,671	Eickemeyer, R.	Electric locomotives	Dec. 30, 1890
443,674	Goldschmidt, P.	Cordage, warp, stop motion	Dec. 30, 1890
443,677	Hunter, R. M.	Electric locomotives	Dec. 30, 1890
443,693	Wood, J. J.	Cut-outs, mechanical	Dec. 30, 1890
443,716	O'Meara, J.	Valve-controllers	Dec. 30, 1890
443,724	Ongley, C. E.	Telegraphy, fire, alarms and extinguishers	Dec. 30, 1890
443,725	Ongley, C. E.	Telegraphy, fire	Dec. 30, 1890
443,726	Ongley, C. E.	Telegraphy, printing	Dec. 30, 1890
443,727	Ongley, C. E.	Lighting, systems	Dec. 30, 1890
443,729	Steele, J. W.	Railway gates, automatic, mast	Dec. 30, 1890
443,730	Steele, J. W.	Railways, automatic signals, danger	Dec. 30, 1890
443,731	Steele, J. W.	Railways, automatic signals, trip	Dec. 30, 1890
443,732	Steele, J. W.	Railway gates, electric	Dec. 30, 1890
443,733	Appleyard, A. E.	Railways, track cleaners, wheel fenders	Dec. 30, 1890
443,746	Dempster, J. T.	Lights, sockets and keys	Dec. 30, 1890
443,748	Dewey, M. W.	Heaters	Dec. 30, 1890
443,749	Dewey, M. W.	do	Dec. 30, 1890
443,772	Kells, C. E., jr.	Applications, tools and machines	Dec. 30, 1890
443,787	Ongley, C. E.	Time checks	Dec. 30, 1890
443,788	Ongley, C. E.	do	Dec. 30, 1890
443,789	Ongley, C. E.	Valve controllers	Dec. 30, 1890
443,790	Ongley, C. E.	Recorders	Dec. 30, 1890
443,814	Berne, A. W.	Railway signals	Dec. 30, 1890
443,823	Cope, T. J.	Conductors, underground	Dec. 30, 1890
443,824	Cope, T. J.	do	Dec. 30, 1890
443,834	Luthe, J. W. and Jeavons, A. E.	Annunciators	Dec. 30, 1890
443,944	Manning, J. A.	Lights, arc, special features	Dec. 30, 1890
443,976	Smith, G. A.	Batteries, galvanic	Dec. 30, 1890
443,980	Van Depoele, C. J.	Motors, alternating	Dec. 30, 1890
443,991	Ellis, S. R.	Theater appliances	Jan. 6, 1891
443,992	Hart, W. H.	Conductors, underground	Jan. 6, 1891
444,005	Mason, D.	Railways, conductor supports and insulators	Jan. 6, 1891
444,006	Mason, D.	do	Jan. 6, 1891
444,067	Holcombe, A. G.	Magneto-electric	Jan. 6, 1891
444,104	Reppy, A. W.	Lights, arc, gravity feed, gear-clutch	Jan. 6, 1891
444,108	Farnham, I. H.	Telephones, systems	Jan. 6, 1891
444,110	Randall, B. L.	Electric locomotives	Jan. 6, 1891
444,114	Wilson, J. C.	Telegraphy, fire	Jan. 6, 1891
444,154	Skinner, J. J.	Lights, arc, gravity feed, clutch	Jan. 6, 1891
444,169	Fuller, L. K.	Music, electric actions	Jan. 6, 1891
444,188	Van Depoele, C. J.	Motors, alternating	Jan. 6, 1891
444,217	Fiske, B. A.	Optics, distance instruments	Jan. 6, 1891
444,223	Payne, C. Q.	Separators	Jan. 6, 1891
444,245	Hormel, A.	Annunciators	Jan. 6, 1891
444,265	Bentley, E. M.	Transmission of power	Jan. 6, 1891
444,273	Cliff, E.	Drop lights and hangers	Jan. 6, 1891
444,284	WARTH, A.	Mechanical movements	Jan. 6, 1891
444,285	WARTH, A.	do	Jan. 6, 1891
444,286	WARTH, A.	do	Jan. 6, 1891
444,287	WARTH, A.	do	Jan. 6, 1891
444,295	Fuller, I. A.	Water gages, float	Jan. 6, 1891
444,317	Potter, J. S. and Cartwright, D. J.	Insulators	Jan. 6, 1891
444,330	Chase, J.	Lights, arc, special features	Jan. 6, 1891

No.	NAME.	CLASS.	DATE.
444,358	Jewell, R.	Registers	Jan. 6, 1891
444,374	Wilson, C. E.	Cut-outs, mechanical	Jan. 6, 1891
444,377	Cutter, G.	Conductors, underground	Jan. 6, 1891
444,392	Currie, S. C. C.	Batteries, secondary	Jan. 6, 1891
444,397	Hunter, R. M.	Railways, systems, overhead, trolleys	Jan. 6, 1891
444,416	Anthony, W. A.	Regulators	Jan. 13, 1891
444,424	Dawes, A.	Drop lights and hangers	Jan. 13, 1891
444,433	Hammer, E. G.	Clocks, electric	Jan. 13, 1891
444,447	Lieb, C. A.	Railways, systems, overhead, trolleys	Jan. 13, 1891
444,452	Mott, S. D.	Indicators	Jan. 13, 1891
444,453	Mott, S. D.	do	Jan. 13, 1891
444,454	Mott, S. D.	do	Jau. 13, 1891
444,466	Smith, T. C.	Lights, incandescent, special features	Jan. 13, 1891
444,471	Ward, B. B.	Lights, filaments and carbons	Jan. 13, 1891
444,472	Ward, B. B.	Lights, arc, gravity feed, gear-clutch	Jan. 13, 1891
444,473	Ward, B. B.	Lights, arc, special features	Jan. 13, 1891
444,477	Wright, A. P.	Conductors	Jan. 13, 1891
444,479	Bentley, E. M.	Electric locomotives	Jan. 13, 1891
444,480	Bentley, E. M.	Locomotion	Jan. 13, 1891
444,482	Bradley, W. W. and Packer, W. N.	Clocks, electric	Jan. 13, 1891
444,486	Entz, J. B.	Magneto-electric	Jan. 13, 1891
444,512	Waddell, M. and Entz, J. B.	Electric locomotives	Jau. 13, 1891
444,530	Edison, T. A.	Lights, incandescent	Jan. 13, 1891
444,539	McCarthy, L. A.	Electric locomotives	Jan. 13, 1891
444,552	Hopkinson, J.	Galvanometers	Jan. 13, 1891
444,553	Hopkinson, J.	Systems of distribution	Jan. 13, 1891
444,566	Hunter, R. M.	Railways, systems, overhead, trolleys	Jan. 13, 1891
444,567	Lean, G. R.	Lights, sockets and keys	Jan. 13, 1891
444,587	Ball, R. E.	Regulators	Jan. 13, 1891
444,597	Lichtenstadt, D. and C.	Electrodes	Jan. 13, 1891
444,599	Owen, A.	Medical and surgical, body-wear	Jan. 13, 1891
444,600	Patterson, W. R.	Bells	Jan. 13, 1891
444,640	Otis, N. P. and Smith, R. C.	Applications, tools and machines	Jan. 13, 1891
444,678	Thomson, E.	Telegraphy, lightning arresters	Jan. 13, 1891
444,687	Blackwell, J. L.	Railways, systems, conduit	Jan. 13, 1891
444,700	Hall, A. W.	Railway signals	Jan. 13, 1891
444,706	Lane, T. W.	Igniting devices, automatic	Jan. 13, 1891
444,707	Lehman, J. H.	Rheostats	Jan. 13, 1891
444,735	Thomas, M. E.	Medical and surgical, body-wear	Jan. 13, 1891
444,740	Bentley, E. M.	Railways, systems	Jan. 13, 1891
444,780	Lawrence, G. R.	Telephones, calls	Jan. 13, 1891
444,791	Bradley, C. S.	Galvanometers	Jan. 13, 1891
444,794	Cook, A. S.	Magneto-electric	Jan. 13, 1891
444,803	Weston, E.	Galvanometers	Jan. 13, 1891
444,804	Weston, E.	do	Jan. 13, 1891
444,805	Weston, E.	do	Jan. 13, 1891
444,807	Beach, R. H.	Motors	Jan. 20, 1891
444,819	Cregier, N. B.	Telegraphy, railway-car	Jau. 20, 1891
444,825	Gillette, H.	Railway gates, electric	Jan. 20, 1891
444,855	Ries, E. E.	Heaters	Jan. 20, 1891
444,871	Baker, I. F. and Booth, R.	Railways, systems	Jan. 20, 1891
444,879	Elkins, C.	Insulators	Jan. 20, 1891
444,881	Gardiner, J. B.	Electrodes	Jan. 20, 1891
444,892	Aldrich, A. T.	Cut-outs, thermal	Jan. 20, 1891
444,893	Blades, H. H.	Railways, systems, overhead, trolleys	Jan. 20, 1891
444,896	Lane, T. W.	Igniting devices, automatic	Jan. 20, 1891
444,900	Wightman, M. J.	Motors	Jan. 20, 1891
444,914	Burton, G. D. and Angell, E. E.	Heaters	Jan. 20, 1891
444,922	Rice, E. W., jr.	Electric locomotives	Jan. 20, 1891
444,925	Thomson, E.	Lights, arc, gravity feed, clutch	Jan. 20, 1891
444,926	Thomson, E.	Heaters	Jan. 20, 1891
444,927	Thomson, E.	do	Jan. 20, 1891
444,928	Thomson, E.	do	Jan. 20, 1891
444,929	Thomson, E.	Cut-outs, thermal	Jan. 20, 1891
444,930	Thomson, E.	Meters	Jan. 20, 1891
444,931	Thomson, E.	do	Jan. 20, 1891
444,934	Billberg, C. O. C. and Winand, P. A. N.	Motors, alternating	Jan. 20, 1891
444,939	Lemp, H. and Schmidt, L. M.	Regulators, alternating	Jan. 20, 1891
444,946	Thomson, E.	Heaters	Jan. 20, 1891
444,966	Wirt, C.	Galvanometers	Jan. 20, 1891
444,969	Bain, F.	Batteries, secondary	Jan. 20, 1891
444,977	Elkins, W. H.	Lights, arc, gravity feed, clutch	Jan. 20, 1891
445,008	Vogler, W.	Railways, conductor supports and insulators	Jan. 20, 1891
445,023	Lefebvre, E.	Clocks, electric	Jan. 20, 1891
445,051	Faries, R. P.	Electric locomotives	Jan. 20, 1891
445,078	Packer, W. N. and Bradley, W. N.	Clocks, electric	Jan. 20, 1891
445,102	Van Depoele, C. J.	Stone working, drills	Jan. 20, 1891

No.	NAME.	CLASS.	DATE.
445,103	Vogler, W.	Railways, conductor supports and insulators	Jan. 20, 1891
445,106	Wiley, E. C.	Railway signals	Jan. 20, 1891
445,113	Hörenz, F.	Time checks	Jan. 20, 1891
445,136	Elkins, W. H.	Lights, arc, gravity feed, clutch	Jan. 20, 1891
445,142	Hughes, J. S.	Railways, conductor supports and insulators	Jan. 20, 1891
445,144	Hunter, R. M.	Electric locomotives	Jan. 20, 1891
445,146	Keyes, B. B.	Cut-outs, mechanical	Jan. 20, 1891
445,161	Chase, H. A.	Printing, hand stamps	Jan. 27, 1891
445,176	Hayes, J. A.	Lights, arc, positive feed, gear-clutch	Jan. 27, 1891
445,207	Tesla, N.	Motors, alternating	Jan. 27, 1891
445,217	Barrett, A.	Cut-outs, thermal	Jan. 27, 1891
445,220	Colby, E. J.	Induction coils	Jan. 27, 1891
445,234	Reilly, J. C.	Conductors, anti-inductive	Jan. 27, 1891
445,253	Potter, J. S.	Lights, incandescent, special features	Jan. 27, 1891
445,259	Curtis, W. B. and Himrod, C.	Lamp shades	Jan. 27, 1891
445,295	Wollensak, J. F.	Bells	Jan. 27, 1891
445,306	Woolcott, C. M. and Wilmot, A. E.	Alarms	Jan. 27, 1891
445,310	Cutter, G. and Armstrong, C. G.	Cut-outs, mechanical	Jan. 27, 1891
445,319	Lenhart, P. F.	Metal founding, wheels	Jan. 27, 1891
445,341	Striemer, A.	Time alarms	Jan. 27, 1891
445,358	Sprinkmanu, F.	Boiler coverings	Jan. 27, 1891
445,362	Bergmann, S.	Cut-outs, mechanical	Jan. 27, 1891
445,363	Bergmann, S.	Lights, sockets and keys	Jan. 27, 1891
445,364	Bergmann, S.	do	Jan. 27, 1891
445,365	Bergmann, S.	Connectors	Jan. 27, 1891
445,374	Keen, W. M. B. and Haarmann, W. F.	Lights, filaments and carbons	Jan. 27, 1891
445,409	Hunter, R. M.	Railways, systems, overhead	Jan. 27, 1891
445,422	Brusb, C. F.	Batteries, secondary	Jan. 27, 1891
445,425	Crowdus, W. A.	Batteries, galvanic	Jan. 27, 1891
445,442	Doggett, J.	Telegraphy, relays and sounders	Jan. 27, 1891
445,448	Holmes, J. H.	Regulators	Jan. 27, 1891
445,475	Norieza, E.	Telephones, electric	Jan. 27, 1891
445,479	Short, S. H.	Railways, systems	Jan. 27, 1891
445,495	Brown, A. H.	Alarms	Jan. 27, 1891
445,499	Dresskell, W. M.	Motors	Jan. 27, 1891
445,515	Sprague, F. J. and Branth, J. F. S.	Railways, systems, overhead	Jan. 27, 1891
445,521	Condict, G. H.	Magneto-electric	Jan. 27, 1891
445,538	Burrell, S. J. and Markland, W. H.	Telephones, calls	Feb. 3, 1891
445,542	Cheswright, H. T.	Batteries, secondary	Feb. 3, 1891
445,545	Crane, M. G.	Telegraphy, fire	Feb. 3, 1891
445,546	Easton, J. W.	Lights, arc, gravity feed, gear-clutch	Feb. 3, 1891
445,549	Fitch, G.	Drop lights and hangers	Feb. 3, 1891
445,564	Loy, I. W. and O'Toole, R.	Railway signals	Feb. 3, 1891
445,583	Zipernowsky, C.	Electric locomotives	Feb. 3, 1891
445,594	Foster, C. and Bevis, W. H.	Railways, conductor supports and insulators	Feb. 3, 1891
445,623	Patten, F. J.	Motors, alternating	Feb. 3, 1891
445,624	Patten, F. J.	do	Feb. 3, 1891
445,634	Bentley, E. M.	Railways, systems, conduit	Feb. 3, 1891
445,636	Chambers, J. C.	Electrodes	Feb. 3, 1891
445,648	Cannell, W.	Printing, branding stamps	Feb. 3, 1891
445,653	Stitzel, F. and Weinedel, C.	Railway signals	Feb. 3, 1891
445,654	Short, S. H.	Electric locomotives	Feb. 3, 1891
445,674	Hunter, R. M.	Railways, systems, conduit	Feb. 3, 1891
445,686	Bottome, T. D.	Cut-outs, thermal	Feb. 3, 1891
445,687	Bottome, T. D.	Systems of distribution	Feb. 3, 1891
445,688	Bottome, T. D.	Lights, incandescent	Feb. 3, 1891
445,715	Etheridge, H.	Telegraphy, automatic	Feb. 3, 1891
445,716	Etheridge, H.	do	Feb. 3, 1891
445,721	Stevens, B. A.	Telephones, details	Feb. 3, 1891
445,724	White, O. C.	Lights, arc, gravity feed, clutch	Feb. 3, 1891
445,727	Cutler, H. H.	Igniting devices, automatic	Feb. 3, 1891
445,728	Cutler, H. H.	do	Feb. 3, 1891
445,741	Weller, F. A.	Motors	Feb. 3, 1891
445,751	Hoffman, J. W.	Connectors	Feb. 3, 1891
445,752	Hoffman, J. W.	Cut-outs, mechanical	Feb. 3, 1891
445,770	Dewey, M. W.	Heaters	Feb. 3, 1891
445,771	Dewey, M. W.	do	Feb. 3, 1891
445,773	Ely, E. S.	Indicators	Feb. 3, 1891
445,790	Winton, H. D.	Insulators	Feb. 3, 1891
445,795	Cole, F. W.	Telegraphy, fire	Feb. 3, 1891
445,796	Cole, F. W.	Annunciators	Feb. 3, 1891
445,797	Cole, F. W.	Telegraphy, repeaters	Feb. 3, 1891
445,798	Cole, F. W.	Telegraphy, fire	Feb. 3, 1891
445,799	Cole, F. W.	do	Feb. 3, 1891
445,800	Cole, F. W.	do	Feb. 3, 1891
445,801	Cole, F. W.	do	Feb. 3, 1891
445,802	Cole, F. W.	do	Feb. 3, 1891

No.	NAME.	CLASS.	DATE.
445,822	Scott, G. A	Lights, incandescent, special features	Feb. 3, 1891
445,841	Short, S. H	Connectors	Feb. 3, 1891
445,860	De Place, L	Applications, general	Feb. 3, 1891
445,872	Barrett, S. H	Batteries, secondary	Feb. 3, 1891
445,906	Schwarze, C. J	Magneto-electric	Feb. 3, 1891
445,907	Sharp, E. P	Motors	Feb. 3, 1891
445,908	Sharp, E. P	Railways, conductor supports and insulators	Feb. 3, 1891
445,931	Douse, T. R	Telegraphy, circuit closers, thermal	Feb. 3, 1891
445,952	Hunter, R. M	Railways, systems, overhead	Feb. 3, 1891
445,954	Jordan, L. F	Lighting, systems	Feb. 3, 1891
445,957	Lean, G. R	Cut-outs, mechanical	Feb. 3, 1891
445,969	Branch, J. R	Insulators	Feb. 10, 1891
445,991	Gaynor, T. F	Annunciators	Feb. 10, 1891
446,030	Sperry, E. A	Transmission of power	Feb. 10, 1891
446,031	Sperry, E. A	Cut-outs, mechanical	Feb. 10, 1891
446,037	Titus, J. E	Drop lights and hangers	Feb. 10, 1891
446,092	Brown, E. K	Magneto-electric	Feb. 10, 1891
446,104	Slattery, M. M. M	Batteries, secondary	Feb. 10, 1891
446,108	Mather, R. H	Lights, arc, positive feed	Feb. 10, 1891
446,109	Mather, R. H	do	Feb. 10, 1891
446,130	Downey, G. W	Lightning rods	Feb. 10, 1891
446,142	Martin, G. W	Lights, incandescent, special features	Feb. 10, 1891
446,159	Westinghouse, G., jr., and Schreuder, J. G	Railway signals	Feb. 10, 1891
446,174	O'Meara, J	Heaters	Feb. 10, 1891
446,180	Bergmanu, S. and Klein, C. J	Lights, incandescent, special features	Feb. 10, 1891
446,188	McDonough, J. W	Telephones, details	Feb. 10, 1891
446,199	Wood, F. B	Telegraphy, fire	Feb. 10, 1891
446,200	Broichgans, S	Telegraphy, fire, alarms and extinguishers	Feb. 10, 1891
446,208	Röver, A. B	Scale beams	Feb. 10, 1891
446,212	Shorey, G. L	Dampers, automatic, pressure motor	Feb. 10, 1891
446,214	Wilson, C. H	Conductors, underground	Feb. 10, 1891
446,229	Harris, L. S	Regulators	Feb. 10, 1891
446,245	Baldwin, G. R	Electric locomotives	Feb. 10, 1891
446,284	Ellis, A. L	Regulators	Feb. 10, 1891
446,297	Schwarze, C. J	Lights, arc, gravity feed, gear-clutch	Feb. 10, 1891
446,298	Schwarze, C. J	Lighting, systems	Feb. 10, 1891
446,313	Wiley, E. C	Railway signals	Feb. 10, 1891
446,376	Bentley, E. M	Railways, systems, conduit	Feb. 10, 1891
446,403	Couly, M. S	Railway signals	Feb. 10, 1891
446,417	Bentley, E. M	Railways, systems, conduit	Feb. 17, 1891
446,418	Bentley, E. M	Railways, systems, overhead	Feb. 17, 1891
446,419	Bentley, E. M	Railways, systems, conduit	Feb. 17, 1891
446,420	Bentley, E. M	do	Feb. 17, 1891
446,424	Brown, R. G	Telegraphy, multiplex	Feb. 17, 1891
446,425	Brown, R. G	do	Feb. 17, 1891
446,428	Cahou, J. B. and Baker, I. F	Railways, systems, overhead, trolleys	Feb. 17, 1891
446,459	Mosher, J. A	Lights, arc, gravity feed, clutch	Feb. 17, 1891
446,475	Seibert, N	Railways, systems, conduit	Feb. 17, 1891
446,477	Shillinglaw, A	Lights, incandescent, special features	Feb. 17, 1891
446,483	Thomson, E	Railways, conductor supports and insulators	Feb. 17, 1891
446,488	Waring, J	Speed measures	Feb. 17, 1891
446,489	Weston, E	Galvanometers	Feb. 17, 1891
446,490	Weston, E	Rheostats	Feb. 17, 1891
446,491	Weston, E	Galvanometers	Feb. 17, 1891
446,492	Weston, E	do	Feb. 17, 1891
446,493	Weston, E	do	Feb. 17, 1891
446,494	Weston, E	do	Feb. 17, 1891
446,502	Wright, E. G	Miscellaneous composition	Feb. 17, 1891
446,509	Colby, E. J	Magnetic locks and bolts	Feb. 17, 1891
446,515	Gutmann, L	Systems of distribution	Feb. 17, 1891
446,527	Laurent-Cély, A. M. F. and Timmis, I. A	Batteries, secondary	Feb. 17, 1891
446,536	Parshall, H. F	Magneto-electric	Feb. 17, 1891
446,544	Wright, W	Batteries, galvanic	Feb. 17, 1891
446,546	Cook, W. S. and M. C	Railway signals	Feb. 17, 1891
446,549	Russell, E. C	Lights, arc, special features	Feb. 17, 1891
446,613	Rae, F. B	Railways, systems, battery	Feb. 17, 1891
446,614	Rice, D. H	Telephones, calls	Feb. 17, 1891
446,623	Lean, G. R	Cut-outs, mechanical	Feb. 17, 1891
446,641	Elfering, J. H	Annunciators	Feb. 17, 1891
446,655	Ard, H	Conductors	Feb. 17, 1891
446,660	Burns, W. H	Lights, filaments and carbons	Feb. 17, 1891
446,661	Clarke, G. P	Magneto-electric, hand machines	Feb. 17, 1891
446,666	Edisor, T. A	Lighting, systems, secondary battery	Feb. 17, 1891
446,667	Edison, T. A	Electric locomotives	Feb. 17, 1891
446,668	Edison, T. A	Lights, arc, gravity feed, clutch	Feb. 17, 1891
446,669	Edisou, T. A	Lights, filaments and carbons	Feb. 17, 1891
446,684	Hussey, C. A	Music, electric actions	Feb. 17, 1891

No.	NAME.	CLASS.	DATE.
446,703	Dewey, M. W.	Applications, general	Feb. 17, 1891
446,704	Edwards, W. C.	Separators	Feb. 17, 1891
446,712	Rice, D. H.	Telephones, calls	Feb. 17, 1891
446,727	Blair, J. and Hunter, A. G.	Batteries, galvanic	Feb. 17, 1891
446,730	Brown, F. H.	Inducto-riums, induction coils	Feb. 17, 1891
446,732	Currier, J. B. and Rice, D. H.	Telephones calls	Feb. 17, 1891
446,767	Buchanan, C. Y.	Separators	Feb. 17, 1891
446,801	Van de Plancke, D. and G.	Clocks, electric	Feb. 17, 1891
446,817	Hunter, R. M.	Railways, systems, battery	Feb. 17, 1891
446,821	Boynton, E. M.	Electric locomotives	Feb. 17, 1891
446,826	Wirt, H. C.	Lights, incandescent, special features	Feb. 17, 1891
446,831	Donovan, T. J.	Heaters	Feb. 17, 1891
446,833	Hunter, R. M.	Railways, systems, overhead	Feb. 17, 1891
446,834	Hunter, R. M.	Railways, systems, circuits, multiple arc	Feb. 17, 1891
446,846	Barron, A. M.	Telegraphy, circuit closers, thermal	Feb. 24, 1891
446,864	Gutmann, L.	Motors, alternating	Feb. 24, 1891
446,871	Lieb, C. A.	Connectors	Feb. 24, 1891
446,873	Madden, A. F.	Miscellaneous compositions	Feb. 24, 1891
446,895	Seymour, A. P.	Cut-outs, thermal	Feb. 24, 1891
446,902	Tirrell, J. P.	Cut-outs, electro-magnetic	Feb. 24, 1891
446,907	Whitlock, E.	Elevators	Feb. 24, 1891
446,917	Harvey, E. T.	Railway signals	Feb. 24, 1891
446,921	Short, S. H.	Railways, systems, overhead, trolleys	Feb. 24, 1891
446,935	Smith, R. T.	Car brakes	Feb. 24, 1891
446,966	Field, S. D.	Cut-outs, thermal	Feb. 24, 1891
446,967	Flowers, M. I.	Magnetic locks and bolts	Feb. 24, 1891
446,974	Lemp, H. and Schmidt, L. M.	Heaters	Feb. 24, 1891
446,985	Mackloskie, C. H. and Baker, W. E.	Railways, conductor supports and insulators	Feb. 24, 1891
446,995	Orford, J. M.	Lights, sockets and keys	Feb. 24, 1891
447,016	Robinson, M. W.	Batteries, galvanic	Feb. 24, 1891
447,023	Carpenter, C. E.	Heaters	Feb. 24, 1891
447,045	Ginochio, N. B.	Telegraphy, fire	Feb. 24, 1891
447,058	Noyes, B. J.	do	Feb. 24, 1891
447,059	Noyes, B. J.	do	Feb. 24, 1891
447,060	Noyes, B. J.	do	Feb. 24, 1891
447,061	Noyes, B. J.	do	Feb. 24, 1891
447,062	Noyes, B. J.	do	Feb. 24, 1891
447,074	Kirnan, W. H.	do	Feb. 24, 1891
447,104	Dewey, M. W.	Heaters	Feb. 24, 1891
447,105	Dudley, W. J.	Clocks, electric	Feb. 24, 1891
447,127	Butterfield, H. R.	Heaters	Feb. 24, 1891
447,134	Lee, H. and Lebrun, E.	Printing, matrix-making	Feb. 24, 1891
447,135	Lee, H.	do	Feb. 24, 1891
447,143	Ashbaugh, J. I.	Heaters	Feb. 24, 1891
447,166	Smith, S. W.	Telegraphy, transmitters	Feb. 24, 1891
447,177	Edwards, T. M.	Lighting, systems	Feb. 24, 1891
447,194	Mercadier, E. J. P.	Telephones, magnetic	Feb. 24, 1891
447,195	Miller, J. E. A.	Annunciators	Feb. 24, 1891
447,198	Parker, J. A.	Telegraphy, reed	Feb. 24, 1891
447,208	Short, S. H.	Railways, conductor supports and insulators	Feb. 24, 1891
447,215	Van Depoele, C. J.	Railways, systems, converter	Feb. 24, 1891
447,220	White, A. C.	Telephones, systems	Feb. 24, 1891
447,230	Chamberlain, J. C.	Railways, systems, battery	Feb. 24, 1891
447,255	Mower, S. E.	Electric locomotives	Feb. 24, 1891
447,256	Nickerson, W. E. and Berrenberg, A.	Lights, incandescent	Feb. 24, 1891
447,279	Currie, S. C. C.	Batteries, secondary	Feb. 24, 1891
447,283	Hunter, R. M.	Railways, systems, overhead	Feb. 24, 1891
447,291	Blades, H. H.	Motors	Mar. 3, 1891
447,315	Gutman, H. J.	Lights, sockets and keys	Mar. 3, 1891
447,321	Hargrave, T. C.	Printing, matrix-making	Mar. 3, 1891
447,332	Knight, W. H.	Railways, systems, conduit	Mar. 3, 1891
447,333	Medbery, H. J.	do	Mar. 3, 1891
447,350	Reilly, J. C.	Conductors, underground	Mar. 3, 1891
447,352	Rice, E. W., jr.	Magneto-electric	Mar. 3, 1891
447,353	Rich, C. C.	Heaters	Mar. 3, 1891
447,383	Thomson, E.	Lights, arc, gravity feed, clutch	Mar. 3, 1891
447,384	Thomson, E.	Magneto-electric	Mar. 3, 1891
447,385	Van Hoesen, G. D.	Sack scales	Mar. 3, 1891
447,409	Kaiser, J. H. and Ledwith, A. B.	Magnetic locks and bolts	Mar. 3, 1891
447,426	Gould, C. C.	Telephones, systems	Mar. 3, 1891
447,449	Hargrave, T. C.	Printing, matrix-making	Mar. 3, 1891
447,469	Main, W.	Magneto-electric	Mar. 3, 1891
447,482	Ward, B. B.	Lighting, systems	Mar. 3, 1891
447,483	Beach, F. G.	Telephones, systems	Mar. 3, 1891
447,486	Bennett, E. C. and Freeze, E. C.	Lighting, systems	Mar. 3, 1891
447,494	O'Meara, J.	Rheostats	Mar. 3, 1891
447,495	Short, S. H.	Railways, conductor supports and insulators	Mar. 3, 1891

No.	NAME.	CLASS.	DATE.
447,505	Coburn, L	Sliding doors	Mar. 3, 1891
447,529	Taintor, G	Cut-outs, electro-magnetic	Mar. 3, 1891
447,558	Cram, W. E	Annunciators	Mar. 3, 1891
447,569	Kennedy, R	Induction coils	Mar. 3, 1891
447,585	Schroeder, G. G	Electrolysis	Mar. 3, 1891
447,594	Williams, H. B	Recorders	Mar. 3, 1891
447,632	Cavert, W. J. and Wiswall, W. P	Railways, systems, overhead, trolleys	Mar. 3, 1891
447,676	Gammon, G. C	Cut-outs, electro-magnetic	Mar. 3, 1891
447,702	Seibold, A. C	Lights, filaments and carbons	Mar. 3, 1891
447,704	Traylor, R. W	Motors	Mar. 3, 1891
447,728	Hart, G. W	Cut-outs, mechanical	Mar. 3, 1891
447,734	Meyrowitz, E. B. and Buchhop, F	Motors	Mar. 3, 1891
447,746	Buchanan, L. H	Lights, arc, positive feed, gear-clutch	Mar. 3, 1891
447,748	Cleveland, L. W	Telegraphy, circuit closers	Mar. 3, 1891
447,767	Foyason, H. C	Lights, arc, gravity feed, clutch	Mar. 10, 1891
447,768	Francis, J. C	Telephones, systems	Mar. 10, 1891
447,788	Orford, J. M. and English, J. C	Cut-outs, mechanical	Mar. 10, 1891
447,826	Hochhausen, W	Cut-outs, electro-magnetic	Mar. 10, 1891
447,827	Hochhausen, W	Motors	Mar. 10, 1891
447,832	Kintz, J	Lights, incandescent, special features	Mar. 10, 1891
447,833	Knight, C. M. and Hawken, T	Connectors	Mar. 10, 1891
447,857	Williams, P. G	Medical and surgical, body-wear	Mar. 10, 1891
447,858	Wright, T. F. and Wilson, E. G	Anti-induction devices	Mar. 10, 1891
447,861	Bergmann, S	Cut-outs, mechanical	Mar. 10, 1891
447,867	Clark, H. T	do	Mar. 10, 1891
447,869	Cole, F. W	Telegraphy, fire	Mar. 10, 1891
447,885	Luce, C. J	Railways, systems, overhead	Mar. 10, 1891
447,894	McCann, W. R. and Creider, S. S	Telegraphy, fire	Mar. 10, 1891
447,896	Nash, F. J	Conductors	Mar. 10, 1891
447,897	Nash, F. J	do	Mar. 10, 1891
447,899	Otis, N. P	Elevators	Mar. 10, 1891
447,906	Rosenfield, W. W	Railway signals	Mar. 10, 1891
447,918	Strowger, A. B	Telephones, systems, automatic	Mar. 10, 1891
447,920	Tesla, N	Lighting, systems	Mar. 10, 1891
447,921	Tesla, N	Magneto-electric	Mar. 10, 1891
447,939	Chapman, W. H	Motors	Mar. 10, 1891
447,943	Cook, W. S. and M. C	Telegraphy, railway-car	Mar. 10, 1891
447,998	Adams, G. W	Telegraphy, fire, alarms and extinguishers	Mar. 10, 1891
448,024	Gray, W	Coin controlled apparatus	Mar. 10, 1891
448,031	Harrison, E. L	Railway signals, block systems	Mar. 10, 1891
448,040	Hornberger, W	Magneto-electric	Mar. 10, 1891
448,044	Iske, A	Telegraphy, circuit closers	Mar. 10, 1891
448,084	Seibold, A. C	Lights, arc, special features	Mar. 10, 1891
448,107	Atwood, La M. C	Lights, arc, positive feed, gear-clutch	Mar. 10, 1891
448,110	Bates, L	Magnetic locks and bolts	Mar. 10, 1891
448,125	Crabtree, L. T	Annunciators	Mar. 10, 1891
448,128	Crisp, J. A. and Webb, G. F	Medical and surgical, body-wear	Mar. 10, 1891
448,153	Ludwig, J. C	Telephones, relays and repeaters	Mar. 10, 1891
448,157	Moyer, J. W. and Jackson, G. F	Store service, switches	Mar. 10, 1891
448,164	Reinmann, C. F	Lights, incandescent, special features	Mar. 10, 1891
448,166	Sweet, E. A	Cut-outs, electro-magnetic	Mar. 10, 1891
448,167	Tregurtha, A. T	Lights, sockets and keys	Mar. 10, 1891
448,169	Warner, E. P	Annunciators	Mar. 10, 1891
448,172	Wightman, M. J	Railways, systems, overhead, trolleys	Mar. 10, 1891
448,173	Wightman, M. J	do	Mar. 10, 1891
448,199	Blackwell, F. O	Electric locomotives	Mar. 17, 1891
448,246	Lieb, C. A	Railways, conductor supports and insulators	Mar. 17, 1891
448,260	Rice, E. W., jr	Electric locomotives	Mar. 17, 1891
448,271	Silkman, E. J	Type-writing	Mar. 17, 1891
448,273	Stout, J. V	Valve-controllers	Mar. 17, 1891
448,274	Stout, J. V	do	Mar. 17, 1891
448,279	Thomson, E	Lighting, systems	Mar. 17, 1891
448,280	Thomson, E	Meters	Mar. 17, 1891
448,294	Chase, H. A	Clocks, electric	Mar. 17, 1891
448,303	Short, S. H	Magneto-electric, couplings	Mar. 17, 1891
448,315	Berne, A. W	Railway signals	Mar. 17, 1891
448,317	Carpenter, C. E	Heaters	Mar. 17, 1891
448,322	Digeon, L	Telephones, systems	Mar. 17, 1891
448,325	Edgerton, E. M	Time alarms	Mar. 17, 1891
448,326	Eickemeyer, R	Motors, alternating	Mar. 17, 1891
448,328	Entz, J. B	Railways, systems	Mar. 17, 1891
448,329	Field, S. D	Telephones, magnetic	Mar. 17, 1891
448,331	Frietsch, K. G	Magneto-electric	Mar. 17, 1891
448,338	Hand, G. D. and Sells, O. P	Cut-outs, mechanical	Mar. 17, 1891
448,351	Kurmayer, K	Lights, arc, positive feed	Mar. 17, 1891
448,359	Nichols, H. B	Conductors	Mar. 17, 1891
448,365	Pratt, R. D	Lights, sockets and keys	Mar. 17, 1891

No.	NAME.	CLASS.	DATE.
448,369	Regan, D. S.	Air and gas engines, explosive	Mar. 17, 1891
448,378	Soden, F. H.	Indicators	Mar. 17, 1891
448,395	Wheeler, G. K.	Insulators	Mar. 17, 1891
448,398	Wilson, J. C.	Telegraphy, fire	Mar. 17, 1891
448,399	Wilson, J. C.	do	Mar. 17, 1891
448,400	Wilson, J. C.	do	Mar. 17, 1891
448,401	Wilson, J. C.	Thermostats	Mar. 17, 1891
448,404	Amstutz, N. S.	Engraving machines	Mar. 17, 1891
448,418	Easton, J. W.	Lights, arc, gravity feed, gear-clutch	Mar. 17, 1891
448,431	Johnson, E. H.	Cut-outs, mechanical	Mar. 17, 1891
448,461	Stewart, R. A.	Railways, systems, conduit	Mar. 17, 1891
448,468	Whitney, E. R.	Lights, incandescent, special features	Mar. 17, 1891
448,505	Crow, B. F.	Railways, systems, overhead	Mar. 17, 1891
448,523	Hunter, R. M.	Railways, systems, circuits, multiple arc	Mar. 17, 1891
448,540	McGenniss, D.	Metal, curved surfaces	Mar. 17, 1891
448,541	Parker, T. and Robinson, A. E.	Electrolysis	Mar. 17, 1891
448,561	Van Depoele, C. J.	Electric locomotives	Mar. 17, 1891
448,562	Van Depoele, C. J.	do	Mar. 17, 1891
448,563	Van Depoele, C. J.	Printing, matrix-making	Mar. 17, 1891
448,587	Redfield, C. L.	Wire	Mar. 17, 1891
448,594	Smith, C. R.	Railways, systems	Mar. 17, 1891
448,598	Wheeler, S. S. and Bradley, C. S.	Motors	Mar. 17, 1891
448,603	Chaplin, E. D.	Conductors	Mar. 17, 1891
448,604	Conner, W. A.	Railways, systems, overhead, trolleys	Mar. 17, 1891
448,618	Hunter, R. M.	Ear trumpets	Mar. 24, 1891
448,627	Benjamin, G. V.	Inductometers, transformers, stationary	Mar. 24, 1891
448,644	Farmer, M. G.	Railways, systems, circuits, series	Mar. 24, 1891
448,653	Hunter, R. M.	Magneto-electric	Mar. 24, 1891
448,666	Nutting, S. E.	do	Mar. 24, 1891
448,669	Perret, F. A.	Meters	Mar. 24, 1891
448,676	Shallenberger, O. B.	do	Mar. 24, 1891
448,677	Shallenberger, O. B.	Lights, sockets and keys	Mar. 24, 1891
448,679	Shlaudeman, F.	Connectors	Mar. 24, 1891
448,680	Shlaudeman, F.	Regulators	Mar. 24, 1891
448,681	Short, S. H.	Rheostats	Mar. 24, 1891
448,682	Short, S. H.	Telegraphy, fire	Mar. 24, 1891
448,684	Singer, W. F.	Cut-outs, mechanical	Mar. 24, 1891
448,698	Turner, D. B.	Railways, conductor supports and insulators	Mar. 24, 1891
448,703	Wirt, H. C.	Railways, systems, overhead	Mar. 24, 1891
448,711	Farnham, I. H.	Alarms	Mar. 24, 1891
448,712	Gallagher, J. J.	Telephones, electric	Mar. 24, 1891
448,726	Oeyan, T.	Lamp shades	Mar. 24, 1891
448,741	Mueller, E. T.	Heaters	Mar. 24, 1891
448,743	O'Meara, J.	Railway signals, sectional rail	Mar. 24, 1891
448,751	Kinsman, F. E.	Railways, systems, circuits, multiple arc	Mar. 24, 1891
448,778	Edison, T. A.	Telegraphy, circuits and systems	Mar. 24, 1891
448,779	Edison, T. A.	Cut-outs, thermal	Mar. 24, 1891
448,782	Hunter, R. M.	Galvanometers	Mar. 24, 1891
448,792	Wirt, C.	Batteries, galvanic	Mar. 24, 1891
448,798	Hirlmann, C. J.	Railways, systems, overhead	Mar. 24, 1891
448,831	Eickemeyer, R.	Railways, systems, conduit	Mar. 24, 1891
448,838	Pocock, F. A.	Electric locomotives	Mar. 24, 1891
448,840	Short, S. H.	Batteries, galvanic	Mar. 24, 1891
448,847	Leakin, J. H.	Railway, cab, sectional rail	Mar. 24, 1891
448,856	Graff, E. D.	Drop lights and hangers	Mar. 24, 1891
448,865	Smith, C. G.	Heaters	Mar. 24, 1891
448,879	Dewey, M. W.	Meters	Mar. 24, 1891
448,894	Thomson, E.	Electric locomotives	Mar. 24, 1891
448,910	Conradson, C. M.	Lights, filaments and carbons	Mar. 24, 1891
448,914	Erlwein, G. and Heller, F. G. A.	do	Mar. 24, 1891
448,915	Erlwein, G.	do	Mar. 24, 1891
448,916	Erlwein, G.	do	Mar. 24, 1891
448,920	Heller, F. G. A.	do	Mar. 24, 1891
448,927	Peacock, R. and Lange, H. L.	Electric locomotives	Mar. 24, 1891
448,936	Collins, J. J.	Batteries, galvanic	Mar. 24, 1891
448,953	Fuller, W. C.	Medical and surgical, body-wear	Mar. 24, 1891
448,956	Graham, G. H. and Gaunane, T.	Insulators	Mar. 24, 1891
448,980	Miller, I. N.	Cut-outs, thermal	Mar. 24, 1891
448,989	Narjot, E.	Air and gas engines, explosive	Mar. 24, 1891
448,994	Redfield, C. L.	Printing, matrix-making	Mar. 24, 1891
448,998	Scales, W. S.	Clocks, electric	Mar. 24, 1891
448,999	Scales, W. S.	do	Mar. 24, 1891
449,001	Shallenberger, O. B.	Meters	Mar. 24, 1891
449,002	Shallenberger, O. B.	do	Mar. 24, 1891
449,003	Shallenberger, O. B.	do	Mar. 24, 1891
449,035	Capek, J. V.	Heaters	Mar. 24, 1891
449,036	Capek, J. V.	do	Mar. 24, 1891

No.	NAME.	CLASS.	DATE.
449,044	Johnson, E. H.	Lighting, systems	Mar. 24, 1891
449,081	Martindale, W. B. and Malmborg, E. R.	Printing, hand stamps	Mar. 24, 1891
449,090	Schlesinger, W. M.	Stone working, drills	Mar. 24, 1891
449,106	Carty, J. J.	Telephones, systems	Mar. 31, 1891
449,108	Desant, W. F. Z.	Cash indicators	Mar. 31, 1891
449,125	Lieb, C. A.	Towers, telegraph poles	Mar. 31, 1891
449,153	Foster, H. A.	Lights, arc, special features	Mar. 31, 1891
449,168	Norman, T. W.	Conductors	Mar. 31, 1891
449,174	Robbins, H. G.	Telegraphy, transmitters	Mar. 31, 1891
449,180	Schatz, A. E.	Telephones, details	Mar. 31, 1891
449,186	Webb, J. W.	Batteries, thermal	Mar. 31, 1891
449,188	White, W.	Cut-outs, mechanical	Mar. 31, 1891
449,196	Blackwell, F. O.	Railways, systems, conduit	Mar. 31, 1891
449,197	Blackwell, F. O.	Electric locomotives	Mar. 31, 1891
449,206	Crane, M. G.	Bells	Mar. 31, 1891
449,209	Curtiss, G. F.	Cut-outs, thermal	Mar. 31, 1891
449,226	Mitchell, A. W.	Railways, systems, overhead, trolleys	Mar. 31, 1891
449,227	Morse, S. F. B.	Railways, systems, circuits, multiple arc	Mar. 31, 1891
449,236	Ward, J. H. R.	Lights, arc, special features	Mar. 31, 1891
449,237	Ward, J. H. R.	Lights, arc, gravity feed, gear-clutch	Mar. 31, 1891
449,238	Ward, J. H. R.	do	Mar. 31, 1891
449,245	Fisher, B. H.	Regulators	Mar. 31, 1891
449,249	Nelson, R. E.	Cash registers	Mar. 31, 1891
449,254	Humans, W.	Telephones, magnetic	Mar. 31, 1891
449,258	Robinson, A.	Heaters	Mar. 31, 1891
449,266	Lean, G. R.	Lights, incandescent, special features	Mar. 31, 1891
449,282	Clark, H. T.	Cut-outs, mechanical	Mar. 31, 1891
449,288	Lahmeyer, W.	Regulators	Mar. 31, 1891
449,289	Maxstadt, F. W.	Cut-outs, thermal	Mar. 31, 1891
449,299	Stoecker, H. P.	Batteries, galvanic	Mar. 31, 1891
449,301	Van Nuis, C. S.	Cut-outs, mechanical	Mar. 31, 1891
449,302	Varley, R., jr.	Bells	Mar. 31, 1891
449,307	Ball, H. P.	Connectors	Mar. 31, 1891
449,345	Andrus, D. P.	Medical and surgical, body-wear	Mar. 31, 1891
449,348	Depp, O. J.	Cut-outs, mechanical	Mar. 31, 1891
449,356	Thomson, E.	Heaters	Mar. 31, 1891
449,357	Thomsou, E.	do	Mar. 31, 1891
449,358	Wessel, F. A.	Electro-magnets	Mar. 31, 1891
449,362	Dean, J. H.	Motors	Mar. 31, 1891
449,375	Meyer, J. and Binder, C.	Telegraph poles	Mar. 31, 1891
449,400	Bishop, J. D.	Conductors	Mar. 31, 1891
449,403	Cooley, F.	Lamps and gas fittings, reflectors	Mar. 31, 1891
449,404	Dewey, M. W.	Heaters	Mar. 31, 1891
449,407	Easton, J. W.	Lamp shades	Mar. 31, 1891
449,411	Hannah, G.	Alarms	Mar. 31, 1891
449,468	Davis, J. V.	Scale beams	Mar. 31, 1891
449,474	Gibbs, G.	Lighting, systems, car	Mar. 31, 1891
449,490	Mitchell, A. W.	Railways, systems, overhead, trolleys	Mar. 31, 1891
449,569	Parsons, B. J.	do	Mar. 31, 1891
449,574	Cole, F. W.	Telegraphy, repeaters	Mar. 31, 1891
449,575	Cole, F. W.	Telegraphy, fire	Mar. 31, 1891
449,576	Cole, F. W.	do	Mar. 31, 1891
449,604	Weller, F. A.	Lights, sockets and keys	Mar. 31, 1891
449,610	Mofatt, R. R.	Separators	Mar. 31, 1891
449,611	Baxter, W., jr.	Applications, tools and machines	Mar. 31, 1891
449,639	Tompkins, S.	Railway signals, cab, sectional rail	Mar. 31, 1891
449,651	Baritsch, E.	Electrodes	Mar. 31, 1891
449,655	Anderson, F.	Telegraphy, automatic	Apr. 7, 1891
449,660	Baxter, W., jr.	Motors	Apr. 7, 1891
449,661	Baxter, W., jr.	Applications, tools and machines	Apr. 7, 1891
449,662	Baxter, W., jr.	do	Apr. 7, 1891
449,672	Finn, H. J. and Garner, J. A.	Telegraphy, railway car	Apr. 7, 1891
449,679	Jacques, W. W.	Telephones, systems	Apr. 7, 1891
449,685	Lyon, J. B.	Telephones, switch-boards	Apr. 7, 1891
449,690	Newman, A.	Annunciators	Apr. 7, 1891
449,709	Short, S. H.	Electric locomotives	Apr. 7, 1891
449,715	Thomson, E. and Rice, E. W., jr.	Lights, arc, gravity feed, clutch	Apr. 7, 1891
449,719	Ward, B. B.	Locomotive head lights	Apr. 7, 1891
449,721	Wheeler, G. K.	Connectors	Apr. 7, 1891
449,726	Ball, C. M. and Norton, S.	Separators	Apr. 7, 1891
449,731	Carlton, J. A. and Johnston, H. L.	Railway signals, block systems	Apr. 7, 1891
449,752	Brown, H. P.	Electric locomotives	Apr. 7, 1891
449,753	Brownlee, J. N.	Towers, telegraph poles	Apr. 7, 1891
449,759	Martindale, W. B.	Printing, hand stamps	Apr. 7, 1891
449,766	Shubert, H. C.	Galvanometers	Apr. 7, 1891
449,767	Tregurtha, A. T.	Lights, incandescent, special features	Apr. 7, 1891
449,774	Duennen, H.	Magneto-electric	Apr. 7, 1891

NO.	NAME.	CLASS.	DATE.
449,777	Hall, O. B.	Towers, telegraph poles	Apr. 7, 1891
449,780	Müller, F. and Greene, J. G.	Lighting, systems	Apr. 7, 1891
449,792	Bentley, E. M.	Railways, systems, overhead	Apr. 7, 1891
449,797	Hunter, R. M.	Railways, systems, conduit	Apr. 7, 1891
449,829	Slocum, E. L.	Telegraphy, fire, alarms and extinguishers	Apr. 7, 1891
449,832	Stanley, A. F.	Bells	Apr. 7, 1891
449,836	Thomson, E.	Heaters	Apr. 7, 1891
449,843	Blanchard, G. W.	Car brakes	Apr. 7, 1891
449,847	Eggers, F. F.	Dental instruments	Apr. 7, 1891
449,866	Slater, W. W.	Bells	Apr. 7, 1891
449,886	Robinson, F. and Lander, P. W. J.	Railways, systems, overhead, trolleys	Apr. 7, 1891
449,889	Turner, G. E.	Valve-controllers	Apr. 7, 1891
449,890	Zingsen, F. W.	Electro-deposition	Apr. 7, 1891
449,897	Brown, R. G.	Telegraphy, multiplex	Apr. 7, 1891
449,902	Easton, J. W.	Drop lights and hangers	Apr. 7, 1891
449,903	Easton, J. W.	Telegraphy, lightning arresters	Apr. 7, 1891
449,921	Tregurtha, A. T.	Lights, incandescent, special features	Apr. 7, 1891
449,923	Youngs, E. F.	Type-writing	Apr. 7, 1891
449,943	McCarthy, L.	Railways, conductor supports and insulators	Apr. 7, 1891
449,977	Stern, W. A.	Towers, telegraph poles	Apr. 7, 1891
449,990	Wilhelm, C. W.	Railway signals, sectional rail	Apr. 7, 1891
450,000	Carpenter, H. H.	Lights, incandescent, special features	Apr. 7, 1891
450,068	Grefen, H.	Magnetic locks and bolts	Apr. 7, 1891
450,074	Hunter, R. M.	Railways, systems, overhead	Apr. 7, 1891
450,099	Fahnebjelm, O. B.	Gas burners, incandescent	Apr. 7, 1891
450,101	Gibbs, J. S.	Cut-outs, thermal	Apr. 7, 1891
450,103	Le Sueur, E. A.	Electrolysis	Apr. 7, 1891
450,104	Le Sueur, E. A.	do	Apr. 7, 1891
450,105	Le Sueur, E. A.	Batteries, galvanic	Apr. 7, 1891
450,153	Hickley, A. S.	Railways, systems, overhead, trolleys	Apr. 14, 1891
450,159	Jones, A. W.	Cut-outs, thermal	Apr. 14, 1891
450,163	Lieb, C. A.	Railways, conductor supports and insulators	Apr. 14, 1891
450,164	Lieb, C. A.	do	Apr. 14, 1891
450,172	Mansfield, F.	Railways, systems, closed conduit	Apr. 14, 1891
450,173	Mansfield, F.	do	Apr. 14, 1891
450,182	Noyes, B. J. and Eaton, H. F.	Telegraphy, fire	Apr. 14, 1891
450,184	Palmros, A.	Railways, systems, overhead, trolleys	Apr. 14, 1891
450,189	Pocock, F. A.	Railways, grippers, whelp wheel	Apr. 14, 1891
450,193	Robinson, C. A.	Railways, systems	Apr. 14, 1891
450,206	Wessel, F. A.	Conductors, underground	Apr. 14, 1891
450,219	Collins, W. F.	Magneto-electric	Apr. 14, 1891
450,221	Cunningham, H. H., Rawson, F. L. and Woodhouse, O. E.	Galvanometers	Apr. 14, 1891
450,228	Fisk, P. H.	Telegraphy, printing	Apr. 14, 1891
450,239	Kirnan, W. H.	Telegraphy, fire	Apr. 14, 1891
450,242	Lieb, C. A.	Railways, conductor supports and insulators	Apr. 14, 1891
450,245	Ludlow, S. W.	Telegraphy, fire, alarms and extinguishers	Apr. 14, 1891
450,260	Singer, W. F.	Telegraphy, circuit closers, thermal	Apr. 14, 1891
450,272	Wickes, R. O.	Telegraphy, relays and sounders	Apr. 14, 1891
450,285	Crowdus, W. A.	Batteries, galvanic	Apr. 14, 1891
450,292	Johnston, W. C., jr.	Telegraphy, circuit closers	Apr. 14, 1891
450,294	Lieb, C. A. and Leavers, E.	Railways, conductor supports and insulators	Apr. 14, 1891
450,304	Van Choate, S. F.	Lights, filaments and carbons	Apr. 14, 1891
450,319	Pragnell, G. E.	Bells	Apr. 14, 1891
450,354	Burnley, W.	Batteries, galvanic	Apr. 14, 1891
450,358	Marcus, W. N.	Telephones, details	Apr. 14, 1891
450,359	Marcus, W. N.	Telephones, supports	Apr. 14, 1891
450,367	Eickeneyer, R.	Magneto-electric	Apr. 14, 1891
450,384	Bertollete, D. A.	Insulators	Apr. 14, 1891
450,390	Varley, R., jr.	Annunciators	Apr. 14, 1891
450,425	Reinemann, A.	Telegraphy, circuit closers, thermal	Apr. 14, 1891
450,426	Roulez, J. E.	Telephones, electric	Apr. 14, 1891
450,441	Whipple, F. E.	Motors	Apr. 14, 1891
450,458	Gruschow, R. H.	Annunciators, drop	Apr. 14, 1891
450,460	Hines, D.	Railways, track cleaners, wheel fenders	Apr. 14, 1891
450,466	Ludlow, S. W.	Alarms	Apr. 14, 1891
450,489	Jackson, W. E., jr.	Railways, systems, overhead, trolleys	Apr. 14, 1891
450,541	Van Depoele, C. J.	Transmission of power	Apr. 14, 1891
450,542	Van Depoele, C. J.	Electric locomotives	Apr. 14, 1891
450,543	Van Depoele, C. J.	Motors, reciprocating	Apr. 14, 1891
450,544	Van Depoele, C. J.	Motors, alternating	Apr. 14, 1891
450,551	Adam, F. and Knapik, J.	Cut-outs, mechanical	Apr. 14, 1891
450,552	Atwood, La M. C.	Magneto-electric	Apr. 14, 1891
450,558	Cox, W.	Annunciators	Apr. 14, 1891
450,577	Davis, J. H.	Induction coils	Apr. 14, 1891
450,581	Gatley, E. J.	Lights, arc, special features	Apr. 14, 1891
450,586	Huntr, R. M.	Railways, systems, overhead	Apr. 14, 1891

No.	NAME.	CLASS.	DATE.
450,587	Lieb, C. A. and Lavens, E.	Railways, conductor supports and insulators	Apr. 14, 1891
450,589	Marsh, J. W.	Conductors	Apr. 14, 1891
450,605	Alton, G. H.	Lights, sockets and keys	Apr. 21, 1891
450,613	Culver, F. S.	Railways, systems, overhead	Apr. 21, 1891
450,615	Delany, P. B.	Annunciators	Apr. 21, 1891
450,626	Kerstein, M.	Lighting, systems	Apr. 21, 1891
450,628	Lauge, P.	Lights, sockets and keys	Apr. 21, 1891
450,630	Linville, S. R. and Hettmansperger, L. F.	Telegraphy, printing	Apr. 21, 1891
450,631	Linville, S. R.	do	Apr. 21, 1891
450,639	Seiberling, J. F.	Magneto-electric	Apr. 21, 1891
450,641	Stanley, W., Jr.	Regulators	Apr. 21, 1891
450,645	Taylor, J. D.	Telephones, calls	Apr. 21, 1891
450,646	Taylor, J. D.	Railway signals	Apr. 21, 1891
450,652	Westinghouse, G., Jr.	Electric locomotives	Apr. 21, 1891
450,683	Short, S. H.	Railways, systems, overhead, trolleys	Apr. 21, 1891
450,687	Thomson, E.	Railways, systems, overhead	Apr. 21, 1891
450,690	Wilson, T. S.	Electrodes	Apr. 21, 1891
450,706	Tinkham, L. B.	Telegraphy, circuit closers	Apr. 21, 1891
450,708	Creighton, T.	Insulators	Apr. 21, 1891
450,734	Bunker, W. I.	Conductors	Apr. 21, 1891
450,742	Johnson, E. H.	Electric locomotives	Apr. 21, 1891
450,744	Johnson, E. H.	Gearing	Apr. 21, 1891
450,824	Currie, S. C. C.	Batteries, secondary	Apr. 21, 1891
450,839	Walcott, J. E.	Conductors, lead-covered	Apr. 21, 1891
450,840	Willms, C.	Batteries, galvanic	Apr. 21, 1891
450,846	Stephenson, J.	Electric locomotives	Apr. 21, 1891
450,853	Webber, H. A.	Railways, systems, overhead, trolleys	Apr. 21, 1891
450,872	Reardon, C. B.	Applications, general	Apr. 21, 1891
450,875	Sims, W. S.	Steering and propulsion	Apr. 21, 1891
450,896	Sims, J. C.	Telegraphy, circuit closers, thermal	Apr. 21, 1891
450,923	Woolley, L. G.	Induction coils	Apr. 21, 1891
450,927	Chattard, F. E.	Valve controllers	Apr. 21, 1891
450,966	Matthews, F. A.	Watch stops	Apr. 21, 1891
450,970	Mlower, S. E.	Electric locomotives	Apr. 21, 1891
450,973	Norton, J. A.	Cut-outs, mechanical	Apr. 21, 1891
450,975	Parcell, A. L.	Magneto-electric	Apr. 21, 1891
450,985	Williams, J. A.	Régulators	Apr. 21, 1891
450,991	Cartwright, D. J.	Lights, incandescent, special features	Apr. 21, 1891
451,037	Frost, E. J.	Carburetors, gas and air mixers	Apr. 28, 1891
451,101	Young, C. G.	Lights, arc, gravity feed, gear-clutch	Apr. 28, 1891
451,108	Danals, C. A. and Perry, W. O.	Drop lights and hangers	Apr. 28, 1891
451,121	Gaylor, T. F.	Bells	Apr. 28, 1891
451,125	Irving, F. K.	Meters	Apr. 28, 1891
451,142	Van Gestel, J. T.	Batteries, galvanic	Apr. 28, 1891
451,143	Villiers-Stead, F. and Hedgman, E. R.	Telephones, systems	Apr. 28, 1891
451,149	Bates, P. S.	Lights, incandescent, special features	Apr. 28, 1891
451,154	Hunter, R. M.	Railways, systems, circuits, multiple arc	Apr. 28, 1891
451,155	Hunter, R. M.	Electric locomotives	Apr. 28, 1891
451,157	Jackson, U. S.	Railway signals	Apr. 28, 1891
451,177	Emmet, W. Le R.	Magneto-electric	Apr. 28, 1891
451,189	Ward, J. H. R.	Lights, arc, gravity feed, gear-clutch	Apr. 28, 1891
451,190	White, Le R. S.	Cut-outs, mechanical	Apr. 28, 1891
451,202	Thomson, D. P.	Drop lights and hangers	Apr. 28, 1891
451,208	Edwards, W. C.	Separators	Apr. 28, 1891
451,211	Macrae, R.	Railways, systems, overhead	Apr. 28, 1891
451,212	Sharp, E. P.	Motors	Apr. 28, 1891
451,226	Ricketts, J. L.	Annunciators, drop	Apr. 28, 1891
451,239	Dewey, M. W.	Heaters	Apr. 28, 1891
451,240	Dewey, M. W.	do	Apr. 28, 1891
451,242	Grant, P.	Magneto-electric	Apr. 28, 1891
451,250	Waterhouse, A. G.	Lights, arc, gravity feed, clutch	Apr. 28, 1891
451,267	Clark, H. T.	Cut-outs, mechanical	Apr. 28, 1891
451,268	Clark, H. T.	do	Apr. 28, 1891
451,282	St. John, S. H. and Jennings, F. A.	Station indicators	Apr. 28, 1891
451,300	Drew, H. P.	Lights, incandescent, special features	Apr. 28, 1891
451,308	Park, H. S.	Electro-magnets	Apr. 28, 1891
451,309	Schleibauer, R.	Lights, arc, gravity feed, gear-clutch	Apr. 28, 1891
451,312	Tischendoerfer, F.	Regulators	Apr. 28, 1891
451,320	Eickemeyer, R.	Motors, reciprocating	Apr. 28, 1891
451,326	Jennings, B.	Railways, systems, conduit	Apr. 28, 1891
451,345	Thomson, E.	Heaters	Apr. 28, 1891
451,364	Brewer, H. J.	Connectors	Apr. 28, 1891
451,369	Conkling, J. P.	Separators	Apr. 28, 1891
451,370	Conkling, J. P.	do	Apr. 28, 1891
451,377	Gould, R. H.	Lighting, systems	Apr. 28, 1891
451,379	Haines, R. D.	Insulators	Apr. 28, 1891
451,397	Chase, H. A.	Telephones, switch-boards	Apr. 28, 1891

No.	NAME.	CLASS.	DATE.
451,402	Hunter, R. M.	Railways, systems, overhead, trolleys	Apr. 28, 1891
451,407	Lloyd, H. H.	Batteries, secondary	Apr. 28, 1891
451,414	Storer, A.	Bells	Apr. 28, 1891
451,415	Aldrich, T. H.	Batteries, secondary	May 5, 1891
451,449	Booth, A. C.	Telegraphy, repeaters	May 5, 1891
451,491	Knight, W. H.	Electric locomotives	May 5, 1891
451,512	Noyes, B. J.	Telegraphy, fire	May 5, 1891
451,514	Payne, J. M.	Car brakes	May 5, 1891
451,520	Rice, E. W., jr.	Meters	May 5, 1891
451,521	Rice, E. W., jr.	Telegraphy, lightning arresters	May 5, 1891
451,540	Washburn, G. A.	Batteries, secondary	May 5, 1891
451,541	Washburn, G. A.	do	May 5, 1891
451,548	Zagelmeyer, L.	Telegraphy, circuit closers, thermal	May 5, 1891
451,559	Hyer, W. E.	Motors	May 5, 1891
451,574	Rice, L. C.	Magneto-electric	May 5, 1891
451,586	Williams, J. B.	Conductors	May 5, 1891
451,587	Williams, J. B.	do	May 5, 1891
451,603	Sterry, T. N.	Applications, general	May 5, 1891
451,605	Andrews, J. D. F.	Conductors	May 5, 1891
451,611	Allison, M. H.	Fare registers	May 5, 1891
451,614	Cobb, H. B.	Conductors, underground	May 5, 1891
451,634	Corwin, W. S.	Telephones, magnetic	May 5, 1891
451,637	Harding, C. K.	Railways, systems, closed conduit	May 5, 1891
451,639	O'Donnell, M. A.	Telegraphy, fire	May 5, 1891
451,649	Dayton, C. A.	Valve controllers	May 5, 1891
451,656	Deacon, S. and Wightman, M. J.	Lights, sockets and keys	May 5, 1891
451,666	Gee, E. C.	Time checks	May 5, 1891
451,689	Davis, M. G.	Telegraphy, fire	May 5, 1891
451,691	Holland, J.	Railways, systems, closed conduit	May 5, 1891
451,692	Hunter, R. M.	Railways, systems, conduit	May 5, 1891
451,696	Kuehnle, J.	Railways, systems, overhead	May 5, 1891
451,700	Poland, L. N. P.	Magneto-electric	May 5, 1891
451,730	Fletcher, J. R.	Towers, telegraph poles	May 5, 1891
451,732	Jones, B. J.	Lighting systems, car	May 5, 1891
451,786	Van Depoele, C. J.	Transmission of power	May 5, 1891
451,798	Balsley, C. H. and Porter, E. M.	Lights, sockets and keys	May 5, 1891
451,815	Ford, W. H.	Railways, systems, closed conduit	May 5, 1891
451,832	Milliken, F.	Towers, telegraph poles	May 5, 1891
451,870	Hewett, E. M. G.	Motors	May 5, 1891
451,872	La Boiteaux, F. M.	do	May 5, 1891
451,873	La Boiteaux, F. M.	Pneumatic fans	May 5, 1891
451,884	Wheeler, S. S.	Magneto-electric	May 5, 1891
451,885	Wheeler, S. S.	Metal working, miscellaneous	May 5, 1891
451,894	Collins, W. F.	Magneto-electric	May 5, 1891
451,902	Stover, J. W.	Telegraphy, fire	May 5, 1891
451,909	Blades, H. H.	Magneto-electric	May 12, 1891
451,921	Emmner, J., jr.	Batteries, secondary	May 12, 1891
451,922	Farnham, I. H.	Telephones, toll	May 12, 1891
451,933	Hunt, A. M.	Connectors	May 12, 1891
451,941	La Point, T. T., Flanagan, J. H. and Thompson, C. A.	Drain tiles	May 12, 1891
451,942	Lechner, F. M.	Mining machines	May 12, 1891
451,948	McClough, G. C.	Batteries, galvanic	May 12, 1891
451,950	Oakman, S.	Insulators	May 12, 1891
451,951	Pope, E.	Telegraphy, printing	May 12, 1891
451,960	Tracy, L. W.	Lead pipe making	May 12, 1891
451,980	Short, S. H.	Electric locomotives	May 12, 1891
451,981	Short, S. H.	do	May 12, 1891
451,996	Dow, W. E.	Drop lights and hangers	May 12, 1891
451,997	Dow, W. E.	Cut-outs, thermal	May 12, 1891
451,999	Walter, W. C.	Railway signals, cab, sectional rail	May 12, 1891
452,003	Lipe, C. E.	Electro-magnets	May 12, 1891
452,005	Short, S. H.	Electric locomotives	May 12, 1891
452,017	Lieb, C. A.	Railways, conductor supports and insulators	May 12, 1891
452,026	Kintner, C. J.	Telegraphy, transmitters	May 12, 1891
452,030	Castner, H. Y.	Reducing and separating	May 12, 1891
452,035	Short, S. H.	Electric locomotives	May 12, 1891
452,036	Short, S. H.	do	May 12, 1891
452,041	Ries, E. E.	Car brakes	May 12, 1891
452,042	Ries, E. E.	Heaters	May 12, 1891
452,056	Zipernowsky, C.	do	May 12, 1891
452,068	Ashwell, W. H.	Coin controlled apparatus	May 12, 1891
452,072	Doucet, S. J.	Railway signals, cab, sectional rail	May 12, 1891
452,091	Williams, J. B.	Conductors	May 12, 1891
452,099	Dewey, M. W.	Railways, systems, double	May 12, 1891
452,151	Whittingham, G. H.	Motors	May 12, 1891
452,152	Whittingham, G. H.	Cut-outs, thermal	May 12, 1891

No.	NAME.	CLASS.	DATE.
452,160	Blackwell, F. O	Railways, systems, conduit	May 12, 1891
452,165	Crane, M. G. and Cole, F. W	Annunciators	May 12, 1891
452,166	Crane, M. G	Belts	May 12, 1891
452,173	Andrews, J. D. F	Cut-outs, mechanical	May 12, 1891
452,176	Christiansen, J	Electric locomotives	May 12, 1891
452,186	Jones, R. M	Railways, systems, overhead, trolleys	May 12, 1891
452,201	Thatcher, E. H	Railways, elevated	May 12, 1891
452,214	Chisholm, D. J	Motors	May 12, 1891
452,220	Gunning, J. H	Electrodes	May 12, 1891
452,250	Williams, C. D	Medical and surgical, body-wear	May 12, 1891
452,255	Bray, T. J	Towers, telegraph poles	May 12, 1891
452,276	Miller, H. W	Meters	May 12, 1891
452,281	O'Neil, J. C	Railway signals	May 12, 1891
452,288	Savage, W. W	Lights, incandescent, special features	May 12, 1891
452,296	Van Depoele, C. J	Transmission of power	May 12, 1891
452,299	Wiseman, A. G	Clocks, electric	May 12, 1891
452,303	Hanson, W	Batteries, galvanic	May 12, 1891
452,305	Keen, W. M. B. and Haarmann, W. F	Lights, sockets and keys	May 12, 1891
452,306	Keen, W. M. B	do	May 12, 1891
452,326	Weston, E	Galvanometers	May 12, 1891
452,340	Conner, W. A	Conductors, lead-covered	May 12, 1891
452,341	Conner, W. A	do	May 12, 1891
452,342	Conner, W. A	do	May 12, 1891
452,359	Briggs, G. T	Motors	May 19, 1891
452,367	Fischer, J. G	Lights, incandescent, special features	May 19, 1891
452,392	Schmidt, F. M	Clocks, electric	May 19, 1891
452,397	Straus, M	Telegraphy, circuit closers	May 19, 1891
452,420	Wessel, F. A	Magneto-electric	May 19, 1891
452,422	Blackwell, F. O	Electric locomotives	May 19, 1891
452,423	Blackwell, F. O	do	May 19, 1891
452,424	Church, A. M	Clocks, electric	May 19, 1891
452,429	Gray, E	Motors	May 19, 1891
452,494	Fessenden, R. A	Lights, incandescent	May 19, 1891
452,506	Klumpp, J. F., jr	Telegraphy, fire, alarms and extinguishers	May 19, 1891
452,510	Williams, J. B	Conductors	May 19, 1891
452,514	Beck, C	Advertising, signs	May 19, 1891
452,515	Brown, F. H	Railway signals, cab, sectional rail	May 19, 1891
452,516	Carroll, E. and Lambert, T. B	Connectors	May 19, 1891
452,523	Jennings, B	Railways, conductor supports and insulators	May 19, 1891
452,542	Cook, D. N	Railways, systems, overhead, trolleys	May 19, 1891
452,546	Mitchell, J. M	Magneto-electric	May 19, 1891
452,561	Bartholomew, I. H	do	May 19, 1891
452,565	Curry, W	Conductors	May 19, 1891
452,571	Holson, A. B	Applications, general	May 19, 1891
452,574	Jenney, C. D	Rheostats	May 19, 1891
452,576	Kuehnle, J	Railways, systems, overhead	May 19, 1891
452,585	Shivler, H. C	Annunciators, drop	May 19, 1891
452,599	Dooley, T. B	Miscellaneous compositions	May 19, 1891
452,611	Mitchell, E. W	Railways, systems, closed conduit	May 19, 1891
452,619	Shaw, A. J	Machine brakes	May 19, 1891
452,621	Short, S. H	Electric locomotives	May 19, 1891
452,622	Short, S. H	do	May 19, 1891
452,633	Buchanan, F	Lights, arc, positive feed, gear-clutch	May 19, 1891
452,636	Fitzimmons, P	Telephones, electric	May 19, 1891
452,638	Gärtner, A. F. and Harris, J. C	Lamps and gas fittings, globes	May 19, 1891
452,645	Jennings, B	Railways, conductor supports and insulators	May 19, 1891
452,701	Gärtner, A. F. and Harris, J. C	Lamps and gas fittings, globes	May 19, 1891
452,717	Riker, A. L	Magneto-electric	May 19, 1891
452,718	Riker, A. L	do	May 19, 1891
452,725	Williams, J. B	Conductors	May 19, 1891
452,735	Shaffer, C. H	Telegraphy, fire, automatic	May 19, 1891
452,741	Weems, D. G	Railways, systems, telpher	May 19, 1891
452,758	Müller, A. C. F	Telephones, electric	May 19, 1891
452,760	Salathé, F	Insulating materials	May 19, 1891
452,765	Salathé, F	do	May 19, 1891
452,771	Chase, H. A	Telegraphy, fire	May 26, 1891
452,775	Dickson, C. T	Telephones, details	May 26, 1891
452,780	Flagg, I. J	Lights, incandescent	May 26, 1891
452,785	Hamrick, H. M	Telephones, systems, toll	May 26, 1891
452,795	Kintner, C. J	Motors	May 26, 1891
452,796	Kress, G. R	Lightning rods	May 26, 1891
452,799	Matteson, J. A	Drop lights, spring drum	May 26, 1891
452,871	Deming, E	Telegraphy, railway-car	May 26, 1891
452,872	Deming, E	Railway signals, cab, sectional rail	May 26, 1891
452,873	Deming, E	do	May 26, 1891
452,874	Deming, E	do	May 26, 1891
452,875	Favor, L. B	Cut-outs, thermal	May 26, 1891

No.	NAME.	CLASS.	DATE.
452,894	Bundy, W. Le G	Time checks	May 26, 1891
452,913	Edison, T. A	Telegraphy, duplex	May 26, 1891
452,920	Hunter, R. M	Railways, systems, conduit	May 26, 1891
452,921	Lyon, J. B	Telephones, switch-boards	May 26, 1891
452,931	Cole, F. W	Bells	May 26, 1891
452,932	Cole, F. W	do	May 26, 1891
452,934	Freeman, W. K	Magneto-electric	May 26, 1891
452,935	Freeman, W. K	Meters	May 26, 1891
452,936	Freeman, W. K	do	May 26, 1891
452,937	Freeman, W. K	Motors	May 26, 1891
452,941	Scribner, C. E	Dynamometers	May 26, 1891
452,942	Slater, W. W	Railway brakes, electric	May 26, 1891
452,951	Thomson, E	Magneto-electric	May 26, 1891
452,955	Prentiss, H. S	Clocks, electric	May 26, 1891
452,956	Prentiss, H. S	do	May 26, 1891
452,983	Radford, C. M	Lightning rods	May 26, 1891
452,992	Dobbie, R. S	Electric locomotives	May 26, 1891
453,000	Goodridge, W. M	Telephones, switch-boards	May 26, 1891
453,002	Hamilton, J. E	Harps and hangers	May 26, 1891
453,029	Warner, E. P	Cut-outs, thermal	May 26, 1891
453,031	Baker, E	Railways, systems, trolley	May 26, 1891
453,032	Blades, H. H	Motors	May 26, 1891
453,036	Brady, T. H	Insulators	May 26, 1891
453,041	Drysdale, W. A	Lights, incandescent, special features	May 26, 1891
453,046	Hall, G. L	Lighting, systems	May 26, 1891
453,070	Wheeler, G. K	Railways, conductor supports and insulators	May 26, 1891
453,093	Sullivan, J	Railways, systems, overhead, trolleys	May 26, 1891
453,097	Walter, W. C	Railway signals, cab, sectional rail	May 26, 1891
453,100	Baker, W. E. and Macloskie, C. H	Railways, conductor supports and insulators	May 26, 1891
453,104	Branch, J. R	Railway signals, cab, sectional rail	May 26, 1891
453,111	Edson, W	Cut-outs, thermal	May 26, 1891
453,162	Ries, E. E	Tempering and annealing	May 26, 1891
453,163	Ries, E. E	do	May 26, 1891
453,164	Ries, E. E	Heaters	May 26, 1891
453,167	Eickemeyer, R	Electric locomotives	May 26, 1891
453,190	Jackson, S. D. L	Advertising, automatic devices	June 2, 1891
453,216	Shawhan, J. F	Electric locomotives	June 2, 1891
453,225	Wheeler, F	Connectors	June 2, 1891
453,230	Bundy, W. L	Time checks	June 2, 1891
453,242	Humans, W	Magneto-electric, hand machines	June 2, 1891
453,248	Smith, T. C	Lighting, systems	June 2, 1891
453,260	Kells, C. E., jr	Dental instruments	June 2, 1891
453,261	Langdon-Davies, C	Telegraphy, reed	June 2, 1891
453,281	Young, C. G	Lighting, systems	June 2, 1891
453,286	Lieb, C. A	Towers, telegraph poles	June 2, 1891
453,287	Macrae, R	Motors	June 2, 1891
453,317	Townsend, H. C	Separators	June 2, 1891
453,318	Wessel, F. A	Regulators	June 2, 1891
453,319	Wessel, F. A	do	June 2, 1891
453,320	Wessel, F. A	do	June 2, 1891
453,323	Ebert, W. H	Lighting, systems, test	June 2, 1891
453,326	Ide, A. L	Railways, conductor supports and insulators	June 2, 1891
453,337	Davis, C. E	Cut-outs, thermal	June 2, 1891
453,349	Sawyer, R. F	Lighting, systems	June 2, 1891
453,355	Haswell, A. E. and A. G	Electro-deposition	June 2, 1891
453,367	Haskins, C. C	Motors	June 2, 1891
453,416	Pinolet, L. M	Annunciators	June 2, 1891
453,430	McLanglin, J. F	Type-writing	June 2, 1891
453,435	Tinning, F. T. and W. K. S	Telephones, supports	June 2, 1891
453,447	Lnby, W. A	Railway signals, sectional rail	June 2, 1891
453,455	White, Le R. S	Lights, sockets and keys	June 2, 1891
453,466	Darling, E. A	Alarms, burglar	June 2, 1891
453,476	Harness, C. B	Electrodes	June 2, 1891
453,483	Jacques, W. W	Telephones, systems	June 2, 1891
453,484	Jewell, R	Measuring pumps	June 2, 1891
453,572	Baumann, R	Cut-outs, electro-magnetic	June 2, 1891
453,578	Chapman, N. S	Railway signals, cab, sectional rail	June 2, 1891
453,581	Fitzimons, P	Telephones, electric	June 2, 1891
453,583	Hochhausen, W	Lights, arc, gravity feed, clutch	June 2, 1891
453,597	La Roche, F. A	Lighting, systems	June 2, 1891
453,601	Edison, T. A	Telegraphy, multiplex	June 2, 1891
453,618	Brown, H. B	Igniting devices, manual	June 9, 1891
453,633	Furlong, L. F. and Tucker, F. O	Cut-outs, mechanical	June 9, 1891
453,681	Wagner, F. C	Galvanometers	June 9, 1891
453,693	Ells, J. W	Lights, arc, positive feed, gear-clutch	June 9, 1891
453,695	Griscom, W. W	Batteries, secondary	June 9, 1891
453,696	Hadlock, W. E	Indicators	June 9, 1891

No.	NAME.	CLASS.	DATE.
453,710	Jones, J.	Railways, systems, overhead	June 9, 1891
453,722	Baker, E. E.	Telephones, details	June 9, 1891
453,723	Braun, M. M.	Telegraphy, circuit closers, thermal	June 9, 1891
453,733	Price, J. E.	Conductors, underground	June 9, 1891
453,742	Fessenden, R. A.	Lights, incandescent	June 9, 1891
453,822	Sperry, E. A.	Magneto-electric	June 9, 1891
453,858	Davis, H. and Stokes, A. H.	do	June 9, 1891
453,861	Halpine, N. J.	Ships, submarine and torpedo	June 9, 1891
453,863	Hibbard, A. S.	Telephones, switch-boards	June 9, 1891
453,871	Stovell, O. H.	Lighting, systems	June 9, 1891
453,875	Atterbury, T. B.	Glass, molds	June 9, 1891
453,888	Mitchell, W.	Cut-outs, mechanical	June 9, 1891
453,898	Brinkerhoff, J. O. and Smith, M. E.	Batteries, galvanic	June 9, 1891
453,950	Walter, J. H.	Batteries, secondary	June 9, 1891
453,982	Milliken, G. F.	Telegraphy, fire	June 9, 1891
453,993	Cole, F. W.	Telegraphy, fire, non-interfering	June 9, 1891
453,995	Currie, S. C. C.	Batteries, secondary	June 9, 1891
454,008	Short, S. H.	Electric locomotives	June 9, 1891
454,016	O'Connell, J. J.	Telephones, systems	June 9, 1891
454,018	Bacorn, F. W.	Annunciators	June 16, 1891
454,020	Bentley, E. M.	Electric locomotives	June 16, 1891
454,021	Bentley, E. M.	do	June 16, 1891
454,022	Bentley, E. M.	Railways, systems, conduit	June 16, 1891
454,023	Blackwell, F. O.	do	June 16, 1891
454,024	Blades, H. H.	Motors	June 16, 1891
454,031	Clark, H. T.	Cut-outs, mechanical, oscillating snap	June 16, 1891
454,038	Fanning, J. J.	Lighting, systems	June 16, 1891
454,057	Macmillan, W.	Batteries, galvanic	June 16, 1891
454,060	McCracken, E. D.	Conductors	June 16, 1891
454,087	Teague, F.	Cut-outs, mechanical	June 16, 1891
454,090	Thomson, E.	Inductoriums, transformers, stationary	June 16, 1891
454,091	Tommasi, D. and Theryc, C.	Batteries, secondary	June 16, 1891
454,095	Wakefield, W. O.	Applications, tools and machines	June 16, 1891
454,138	Mercadier, E. J. P.	Telephones, supports	June 16, 1891
454,155	Readman, W.	Conductors, underground	June 16, 1891
454,166	Dillon, T.	Street lamp hangers	June 16, 1891
454,177	Miller, J. J.	Railways, systems, conduit	June 16, 1891
454,178	Miller, J. J.	do	June 16, 1891
454,181	Nash, E. L., Stout, G. G. and Davis, J. R.	Connectors	June 16, 1891
454,184	Pattison, R. and Desmond, D. G.	Lights, incandescent, special features	June 16, 1891
454,187	Sellon, J. S.	Batteries, secondary	June 16, 1891
454,207	Eickemeyer, R., jr.	Rheostats	June 16, 1891
454,226	Pieper, O. H. and Watson, F. M.	Telegraphy, circuit closers	June 16, 1891
454,238	Tremper, F. E. and Eisenhuth, J. W.	Air and gas engines, explosive	June 16, 1891
454,245	Ziegler, J. O.	Railway signals	June 16, 1891
454,253	Clarke, P.	Lights, arc, positive feed, clutch	June 16, 1891
454,262	Edison, T. A.	Lights, filaments and carbons	June 16, 1891
454,270	Herrick, A. B.	Galvanometers	June 16, 1891
454,275	Johnson, E. H.	Conductors, underground	June 16, 1891
454,294	Rushmore, S. W.	Lights, arc, positive feed, clutch	June 16, 1891
454,295	Rushmore, S. W.	Lights, arc, positive feed, gear-clutch	June 16, 1891
454,313	Webb, G. F.	Medical and surgical, body-wear	June 16, 1891
454,336	Eickemeyer, R.	Magneto-electric	June 16, 1891
454,338	Essick, S. V. B.	Telegraphy, relays and sounders	June 16, 1891
454,344	Guiley, A. H. R.	Railway signals, cab, sectional rail	June 16, 1891
454,404	Ames, F.	Sewing machines, special machines	June 16, 1891
454,430	Greenfeld, E. T.	Connectors	June 16, 1891
454,437	Hunter, R. M.	Railways, systems, overhead, trolleys	June 16, 1891
454,443	McAuley, J. E.	Lights, arc, gravity feed, clutch	June 16, 1891
454,450	Bassett, N.	Car brakes	June 23, 1891
454,462	Eickemeyer, R.	Applications, tools and machines	June 23, 1891
454,475	Herring, C.	Regulators	June 23, 1891
454,476	Herring, C.	do	June 23, 1891
454,485	Lemp, H. and Wightman, M. J.	Lights, arc, gravity feed, gear-clutch	June 23, 1891
454,486	Lieb, C. A.	Railways, conductor supports and insulators	June 23, 1891
454,487	Lieb, C. A.	do	June 23, 1891
454,488	Lieb, C. A.	Magneto-electric	June 23, 1891
454,496	Rae, F. B.	Telegraphy, lightning arresters	June 23, 1891
454,503	Sundeen, A. D., Molander, S. B., Anderson, G. W. and Carlsen, A. M.	Telephones, systems	June 23, 1891
454,504	Sundeen, A. D., Molander, S. B., Anderson, G. W. and Carlsen, A. M.	Telephones, calls	June 23, 1891
454,522	Larkin, G. H. and Tomkins, J.	Railways, systems, overhead, trolleys	June 23, 1891
454,529	Rutter, G. E.	Coin controlled apparatus, weighing	June 23, 1891
454,532	Verstraete, E.	Railways, systems, overhead, trolleys	June 23, 1891
454,536	Duncan, W.	do	June 23, 1891
454,541	Winkley, E. E.	Valve-controllers	June 23, 1891

No.	NAME.	CLASS.	DATE.
454,546	Sperry, A. W	Conductors	June 23, 1891
454,547	Sperry, A. W	Insulating materials	June 23, 1891
454,548	Sperry, A. W	do	June 23, 1891
454,555	Atkins, C. H.	Separators	June 23, 1891
454,558	Edison, T. A.	Lights, incandescent	June 23, 1891
454,570	Moore, G. R.	Figure wheeled toys	June 23, 1891
454,573	Sherman, W. N.	Medical and surgical, body-wear	June 23, 1891
454,584	Viles, F. T. and Young, N	Telephones, switch-boards	June 23, 1891
454,598	Hathaway, P	Batteries, galvanic	June 23, 1891
454,604	Sautter, G	Lights, arc, special features	June 23, 1891
454,622	Tesla, N	Lighting, systems	June 23, 1891
454,625	Lenahan, F. P.	Railway signals, cab, sectional rail	June 23, 1891
454,626	Rae, F. B.	Motors	June 23, 1891
454,627	Roney, A. B.	do	June 23, 1891
454,630	Toye, B. B.	Telegraphy, multiplex	June 23, 1891
454,643	Foote, G. L. and Moore, W. C.	Telephones, calls, step-by-step	June 23, 1891
454,650	Herzberg, I. and A.	Lighting, systems	June 23, 1891
454,669	Strauss, J. B.	Connectors	June 23, 1891
454,671	Thomson, E	Telegraphy, lightning arresters	June 23, 1891
454,672	Thomson, E	do	June 23, 1891
454,673	Thomson, E	Heaters	June 23, 1891
454,698	Angell, E. E.	Applications, general	June 23, 1891
454,717	Decker, P	Batteries, galvanic	June 23, 1891
454,724	Emmner, J., jr	Telegraphy, fire, automatic	June 23, 1891
454,746	Leonard, B. W.	Cut-outs, electro-magnetic	June 23, 1891
454,782	Thomson, E	Connectors	June 23, 1891
454,794	Bickford, J. H.	Lights, arc, special features	June 23, 1891
454,815	Smith, G. W.	Telegraphy, circuit-closers	June 23, 1891
454,816	Ward, J. H. R.	Batteries, secondary	June 23, 1891
454,818	Anderson, B.	Applications, tools and machines	June 23, 1891
454,832	Bennett, E. S. and Parshall, H. F.	Indicators	June 30, 1891
454,867	Haight, H. J.	Lights, filaments and carbons	June 30, 1891
454,873	Lawrence, W. H.	Railways, systems, overhead	June 30, 1891
454,881	Scott, G. J.	Motors	June 30, 1891
454,882	Scott, G. J.	Inducto-riums, transformers, rotary	June 30, 1891
454,883	Scott, G. J.	Telegraphy, printing	June 30, 1891
454,884	Sedgwick, F.	Electric locomotives	June 30, 1891
454,888	Stephenson, J.	Conductors, anti-inductive	June 30, 1891
454,890	Thomson, E	Time locks	June 30, 1891
454,897	Adams, G. W.	Railways, systems, overhead	June 30, 1891
454,903	Fletcher, J. R.	Cut-outs, thermal	June 30, 1891
454,904	Fletcher, J. R.	Annunciators	June 30, 1891
454,924	Wood, F. B.	Cut-outs, electro-magnetic	June 30, 1891
454,926	Clausen, W. H.	Conductors, underground	June 30, 1891
454,938	Chenoweth, A. C.	do	June 30, 1891
454,939	Chenoweth, A. C.	Meters	June 30, 1891
454,949	Pilkington, H. M. and White, R. S.	Rheostats	June 30, 1891
454,969	Sigsbee, C. D., Hayward, T. S. and Anderson, F. S.	Telegraphy, fire, alarms and extinguishers	June 30, 1891
454,973	Martin, M.	Telegraphy, fire	June 30, 1891
454,974	Martin, M.	Heaters	June 30, 1891
454,979	Drew, C. W. and Francis, E. R.	Dampers, automatic	June 30, 1891
454,985	Parker, E. H.	Cut-outs, mechanical	June 30, 1891
454,995	Des Brisay, J.	Alarms, burglar	June 30, 1891
455,005	Palmer, D. A.	Heaters	June 30, 1891
455,010	Appleyard, A. E.	Annunciators	June 30, 1891
455,016	Harte, W. F. and Gerold, C. A.	Railways, systems, battery	June 30, 1891
455,019	Ingraham, A. A.	Drilling and boring	June 30, 1891
455,037	Gardner, F.	Clocks, electric	June 30, 1891
455,041	Von Hefner-Altenbeck, F.	do	June 30, 1891
455,055	Ramsay, W.	Motors, alternating	June 30, 1891
455,067	Tesla, N.	Meters	June 30, 1891
455,068	Tesla, N.	Lights, incandescent	June 30, 1891
455,069	Tesla, N.	Lights, arc, gravity feed, clutch	June 30, 1891
455,071	Thompson, F. H.	Telegraphy, printing, wheel	June 30, 1891
455,075	Van Hoevenbergh, H.	Telegraphy, circuit-closers	June 30, 1891
455,086	Wright, G. W.	Lights, arc, positive feed, gear-clutch	June 30, 1891
455,087	Wright, G. W.	Cut-outs, electro-magnetic	June 30, 1891
455,092	Billberg, C. O. C. and Winand, P. A. N.	Coin controlled apparatus, exhibitors, surface	June 30, 1891
455,100	Harris, A.	Railways, conductor supports, and insulators	June 30, 1891
455,107	Munsie, J. F.	Motors	June 30, 1891
455,109	McGahan, F. L.	do	June 30, 1891
455,110	McGahan, F. L.	Post-office boxes	June 30, 1891
455,126	Smith, W. A. M. and R. T. F.	Annunciators	June 30, 1891
455,138	Wass, D. D.	Amalgamators, electric	June 30, 1891
455,164	Button, G. and Wyeth, W. E.	Lights, filaments and carbons	June 30, 1891
455,187	Erlwein, G.		

No.	NAME.	CLASS.	DATE.
455,223	Mansfield, F. and Wason, C. W	Telegraphy, lightning arresters	June 30, 1891
455,233	Munsie, J. F	Railways, systems, overhead	June 30, 1891
455,234	Munsie, J. F	do	June 30, 1891
455,266	Stevens, W. and Hovey, H. J	Railway signals, block	June 30, 1891
455,267	Wheeler, S. S	Regulators	June 30, 1891
455,268	Wiesebrock, F. W	Telethermometers	June 30, 1891
455,287	Keyes, B. B	Lights, sockets and keys	June 30, 1891
455,294	Bates, D. H. and Van Hoevenbergh, H	Telegraphy, printing	June 30, 1891

APPENDIX No. X.

PART III.

CONSISTING OF A

ALPHABETICAL INDEX OF ALL PATENTS

RELATING TO

ELECTRICITY

Issued from July 1, 1890, to June 30, 1891, inclusive, giving names of Inventors, numbers and dates of Patents, and the sub-class to which each belongs.

ALPHABETICAL INDEX

OF

PATENTS RELATING TO ELECTRICITY

FROM JULY 1, 1890, TO JUNE 30, 1891.

No.	NAME.	CLASS.	DATE.
436,864	Abshagen, E.	Heaters	Sept. 23, 1890
442,932	Abshagen, E.	---- do	Dec. 16, 1890
442,933	Abshagen, E.	---- do	Dec. 16, 1890
438,127	Ackermann, W. J.	Alarms, burglar	Oct. 7, 1890
442,002	Adams, A. W.	Railways, systems, overhead, trolleys	Dec. 2, 1890
450,551	Adam, F. and Knapik, J.	Cut-outs, mechanical	Apr. 14, 1891
447,998	Adams, G. W.	Telegraphy, fire, alarms and extinguishers	Mar. 10, 1891
454,897	Adams, G. W.	Time locks	June 30, 1891
436,571	Ainslie, D. A.	Railways, systems, overhead, trolleys	Sept. 16, 1890
432,965	Aldrich, F. H.	Lights, incandescent, special features	July 29, 1890
444,892	Aldrich, A. T.	Cut-outs, thermal	Jan. 20, 1891
451,445	Aldrich, T. H.	Batteries, secondary	May 3, 1891
451,611	Allison, M. H.	Fare registers	May 5, 1891
440,685	Alton, G. H. and Rice, E. W.	Cut-outs, thermal	Nov. 18, 1890
450,605	Alton, G. H.	Lights, sockets and keys	Apr. 21, 1891
454,404	Ames, F.	Sewing machines, special machines	June 16, 1891
441,918	Ames, T. K.	Rheostats	Dec. 2, 1890
448,404	Amstutz, N. S.	Engraving machines	Mar. 17, 1891
440,908	Andersen, F. V. and Girdlestone, J. O.	Magneto-electric	Nov. 18, 1890
431,684	Andersen, J. M.	Railways, systems, overhead, trolleys	July 8, 1890
438,219	Andersen, J. M.	---- do	Oct. 14, 1890
454,818	Anderson, B.	Batteries, secondary	June 23, 1891
431,793	Anderson, F.	Telegraphy, automatic	July 8, 1890
431,794	Anderson, F.	---- do	July 8, 1890
449,655	Anderson, F.	---- do	Apr. 7, 1891
451,605	Andrews, J. D. F.	Conductors	May 5, 1891
452,173	Andrews, J. D. F.	Cut-outs, mechanical	May 12, 1891
449,345	Andrus, D. P.	Medical and surgical, body-wear	Mar. 31, 1891
454,698	Angell, E. E.	Heaters	June 23, 1891
444,416	Anthony, W. A.	Regulators	Jan. 13, 1891
443,738	Appleyard, A. E.	Railways, track cleaners, wheel fenders	Dec. 30, 1890
455,010	Appleyard, A. E.	Heaters	June 30, 1891
438,134	Apps, A.	Lights, filaments and carbons	Oct. 14, 1890
437,169	Aramburn, F.	Optics, compasses	Sept. 23, 1890
446,655	Arld, H.	Conductors	Feb. 17, 1891
442,347	Arnold, C. R.	Telegraphy, railway-car	Dec. 9, 1890
437,079	Ashbrook, L. D.	Medical and surgical, body-wear	Sept. 23, 1890
447,143	Ashbaugh, J. I.	Heaters	Feb. 24, 1891
438,598	Ashton, F. M.	Alarms	Oct. 21, 1890
452,068	Ashwell, W. H.	Coin controlled apparatus	May 12, 1891
454,555	Atkins, C. H.	Separators	June 23, 1891
453,875	Atterbury, T. B.	Glass, molds	June 9, 1891
435,166	Atwood, L.	Railways, systems, overhead, trolleys	Aug. 26, 1890
436,113	Atwood, La M. C.	Regulators	Sept. 9, 1890
448,107	Atwood, La M. C.	Lights, arc, positive feed, gear-clutch	Mar. 10, 1891
450,552	Atwood, La M. C.	Magneto-electric	Apr. 14, 1891
454,018	Bacorn, F. W.	Annunciators	June 16, 1891
437,324	Bailey, E. E. and Galbraith, J.	Cut-outs, thermal	Sept. 30, 1890
431,542	Bailey, G. W.	Water distribution, siphons	July 8, 1890
433,611	Bain, F.	Railways, systems, overhead, trolleys	Aug. 5, 1890
443,187	Bain, F.	Insulators	Dec. 23, 1890
444,969	Bain, F.	Batteries, secondary	Jan. 20, 1891
453,031	Baker, E.	Railways, systems, telpher	May 26, 1891
453,722	Baker, E. E.	Telephones, details	June 9, 1891
437,961	Baker, I. F.	Railways, systems, overhead, trolleys	Oct. 7, 1890
440,686	Baker, I. F.	Electric locomotives	Nov. 18, 1890
444,871	Baker, I. F. and Booth, R.	Railways, systems	Jan. 20, 1891
453,100	Baker, W. E. and Macloskie, C. H.	Railways, conductor supports and insulators	May 26, 1891
439,232	Baldwin, C. W.	Air and gas engines, explosive	Oct. 28, 1890

No.	NAME.	CLASS.	DATE.
446,245	Baldwin, G. R.	Electric locomotives	Feb. 10, 1891
449,726	Ball, C. M. and Norton, S.	Separators	Apr. 7, 1891
449,307	Ball, H. P.	Connectors	Mar. 31, 1891
444,587	Ball, R. E.	Regulators	Jan. 13, 1891
451,798	Balsley, C. H. and Porter, E. M.	Lights, sockets and keys	May 5, 1891
441,919	Banta, W. E.	Connectors	Dee. 2, 1890
440,614	Barberie, E. T. and Des Brisay, J.	Cut-outs, mechanical	Nov. 18, 1890
439,092	Bardwell, A. F.	Railways, systems, overhead, trolleys	Oct. 28, 1890
445,217	Barrett, A.	Cut-outs, thermal	Jan. 27, 1891
445,872	Barrett, S. H.	Batteries, secondary	Feb. 3, 1891
432,927	Barrett, S. L.	Lubricators, miscellaneous	July 22, 1890
446,846	Barron, A. M.	Telegraphy, circuit closers, thermal	Feb. 24, 1891
452,561	Bartholomew, I. H.	Magneto-electric	May 19, 1891
431,962	Barton, E. M.	Telephones, systems	July 8, 1890
449,651	Bartsch, E.	Electrodes	Mar. 31, 1891
454,450	Bassett, N.	Car brakes	June 23, 1891
441,122	Bassett, N. C.	Railways, systems, overhead, trolleys	Nov. 25, 1890
441,123	Bassett, N. C.	do	Nov. 25, 1890
442,472	Batchelder, G. L.	Drop lights and hangers	Dee. 9, 1890
455,294	Bates, D. H. and Van Hoeveulbergh, H.	Telegraphy, printing	June 30, 1891
448,110	Bates, L.	Magnetic locks and bolts	Mar. 10, 1891
451,149	Bates, P. S.	Lights, incandescent, special features	Apr. 28, 1891
440,753	Bathurst, F.	do	Nov. 18, 1890
435,132	Battershall, J. W.	Cut-outs, mechanical	Aug. 26, 1890
427,352	Battershall, J. W.	do	Sept. 30, 1890
435,084	Bauer, A. H.	Batteries, secondary, applications	Aug. 26, 1890
453,572	Baumann, R.	Cut-outs, electro-magnetic	June 2, 1891
449,611	Baxter, W., jr.	Applications, tools and machines	Mar. 31, 1891
449,660	Baxter, W., jr.	Motors	Apr. 7, 1891
449,661	Baxter, W., jr.	Applications, tools and machines	Apr. 7, 1891
449,662	Baxter, W., jr.	do	Apr. 7, 1891
441,276	Bayles, J. C.	Forging and welding	Nov. 25, 1890
441,277	Bayles, J. C.	Metal working, tubes	Nov. 25, 1890
432,968	Bayley, C. H.	Advertising, signs	July 29, 1890
438,982	Beach, F. G.	Telephones, systems	Oct. 21, 1890
447,485	Beach, F. G.	do	Mar. 3, 1891
437,767	Beach, R. H.	Lights, arc, positive feed	Oct. 7, 1890
444,807	Beach, R. H.	Motors	Jan. 20, 1891
452,514	Beck, C.	Advertising, signs	May 19, 1891
442,473	Beers, C. B. and Tuttle, W. B.	Bells	Dec. 9, 1890
433,390	Belding, W. S.	Magneto-electric	July 29, 1890
433,391	Belding, W. S.	do	July 29, 1890
433,392	Belding, W. S.	do	July 29, 1890
433,393	Belding, W. S.	do	July 29, 1890
440,689	Belding, W. S.	Electric locomotives	Nov. 18, 1890
437,673	Bell, L. and Root, T. H.	Valve-controllers	Oct. 7, 1890
441,817	Bell, L. and Root, T. H.	do	Dec. 2, 1890
442,849	Bellussieh, J.	Recorders	Dec. 16, 1890
433,269	Belt, P. P.	Regulators	July 29, 1890
448,827	Benjamin, G. V.	Ear trumpets	Mar. 24, 1891
447,486	Bennett, E. C. and Freeze, E. C.	Lighting, systems	Mar. 3, 1891
454,832	Bennett, E. S. and Parshall, H. F.	Applications, tools and machines	June 23, 1891
437,010	Bentley, E. M.	Telephones, systems	Sept. 23, 1890
437,011	Bentley, E. M.	Rheostats	Sept. 23, 1890
437,012	Bentley, E. M.	Telephones, systems	Sept. 23, 1890
443,084	Bentley, E. M.	Railways, systems, closed conduit	Dec. 23, 1890
444,265	Bentley, E. M.	Transmission of power	Jan. 6, 1891
444,479	Bentley, E. M.	Electric locomotives	Jan. 13, 1891
444,480	Bentley, E. M.	Locomotion	Jan. 13, 1891
444,740	Bentley, E. M.	Railways, systems	Jan. 13, 1891
445,634	Bentley, E. M.	Railways, systems, conduit	Feb. 3, 1891
446,376	Bentley, E. M.	do	Feb. 10, 1891
446,417	Bentley, E. M.	do	Feb. 17, 1891
446,418	Bentley, E. M.	Railways, systems, overhead	Feb. 17, 1891
446,419	Bentley, E. M.	Railways, systems, conduit	Feb. 17, 1891
446,420	Bentley, E. M.	do	Feb. 17, 1891
449,792	Bentley, E. M.	Railways, systems, overhead	Apr. 7, 1891
454,020	Bentley, E. M.	Electric locomotives	June 16, 1891
454,021	Bentley, E. M.	do	June 16, 1891
454,022	Bentley, E. M.	Railroads, systems, conduit	June 16, 1891
431,320	Bergmann, S.	Lights, incandescent, special features	July 1, 1890
433,883	Bergmann, S.	Cut-outs, mechanical	Aug. 5, 1890
440,096	Bergmann, S.	Telephones, electric	Nov. 4, 1890
443,493	Bergmann, S.	Telephones, magnetic	Dec. 30, 1890
443,494	Bergmann, S.	Telephones, electric	Dec. 30, 1890
443,562	Bergmann, S.	Lights, sockets and keys	Dec. 30, 1890
443,563	Bergmann, S.	Shade supports	Dec. 30, 1890

No.	NAME.	CLASS.	DATE.
445,362	Bergmann, S.	Cut-outs, mechanical	Jan. 27, 1891
445,363	Bergmann, S.	Lights, sockets and keys	Jan. 27, 1891
445,364	Bergmann, S.	do	Jan. 27, 1891
445,365	Bergmann, S.	Connectors	Jan. 27, 1891
446,180	Bergmann, S. and Klein, C. J.	Lights, incandescent, special features	Feb. 10, 1891
447,861	Bergmann, S.	Cut-outs, micchancial	Mar. 10, 1891
436,205	Berlin, C. F.	Applications, general	Sept. 9, 1890
443,814	Berne, A. W.	Railway signals	Dec. 30, 1890
443,815	Berne, A. W.	Railway signals	Mar. 17, 1891
433,229	Bernstein, A.	Cut-outs, thermal	July 29, 1890
450,334	Bertolette, D. A.	Insulators	Apr. 14, 1891
440,534	Bettendorf, W. P. and J. W.	Heaters	Nov. 11, 1890
454,794	Bickford, J. H.	Connectors	June 23, 1891
444,984	Billberg, C. O. C. and Winand, P. A. N.	Motors, alternating	Jan. 20, 1891
455,092	Billberg, C. O. C. and Winand, P. A. N.	Cut-outs, electro-magnetic	June 30, 1891
449,400	Bishop, J. D.	Conductors	Mar. 31, 1891
448,199	Blackwell, F. O.	Electric locomotives	Mar. 17, 1891
449,196	Blackwell, F. O.	Railways, systems, conduit	Mar. 31, 1891
449,197	Blackwell, F. O.	Electric locomotives	Mar. 31, 1891
452,160	Blackwell, F. O.	Railways, systems, conduit	May 12, 1891
452,422	Blackwell, F. O.	Electric locomotives	May 19, 1891
452,423	Blackwell, F. O.	do	May 19, 1891
454,023	Blackwell, F. O.	Railways, systems, conduit	June 16, 1891
444,687	Blackwell, J. L.	do	Jan. 13, 1891
435,639	Blades, H. H.	Motors	Sept. 2, 1890
435,640	Blades, H. H.	Electric locomotives	Sept. 2, 1890
433,641	Blades, H. H.	do	Sept. 2, 1890
437,844	Blades, H. H.	Magneto-electric	Oct. 7, 1890
444,893	Blades, H. H.	Railways, systems, overhead, trolleys	Jan. 20, 1891
447,291	Blades, H. H.	Motors	Mar. 3, 1891
451,909	Blades, H. H.	Magneto-electric	May 12, 1891
453,032	Blades, H. H.	Motors	May 26, 1891
454,024	Blades, H. H.	do	June 16, 1891
446,727	Blair, J. and Hunter, A. G.	Batteries, galvanic	Feb. 17, 1891
440,391	Blaisdell, F. E.	Insulating materials	Nov. 11, 1890
449,843	Blanchard, G. W.	Car brakes	Apr. 7, 1891
432,783	Blomgren, W. A.	Photography, cameras	July 22, 1890
440,821	Bock, L., jr.	Motors, reciprocating	Nov. 18, 1890
451,449	Booth, A. C.	Telegraphy, repeaters	May 5, 1891
439,796	Bottome, T. D.	Insulating materials	Nov. 4, 1890
442,661	Bottome, T. D.	Electrolysis	Dec. 16, 1890
445,686	Bottome, T. D.	Cut-outs, thermal	Feb. 3, 1891
445,687	Bottome, T. D.	Systems of distribution	Feb. 3, 1891
445,688	Bottome, T. D.	Lights, incandescent	Feb. 3, 1891
441,127	Bornholdt, A.	do	Nov. 25, 1890
441,128	Bornholdt, A.	do	Nov. 25, 1890
439,859	Bossert, W. F.	Cut-outs, thermal	Nov. 4, 1890
446,821	Boynton, E. M.	Electric locomotives	Feb. 17, 1891
441,818	Bradbury, J. Y. and Stone, F. J.	Batteries, secondary	Dec. 2, 1890
438,602	Bradley, C. S.	Magneto-electric	Oct. 21, 1890
438,603	Bradley, C. S.	Motors, alternating	Oct. 21, 1890
439,102	Bradley, C. S.	do	Oct. 28, 1890
444,791	Bradley, C. S.	Galvanometers	Jan. 13, 1891
444,822	Bradley, W. W. and Packer, W. N.	Clocks, electric	Jan. 13, 1891
437,883	Brady, T. H.	Supports and hangers	Oct. 7, 1890
442,415	Brady, T. H.	Block and tackle	Dec. 9, 1890
453,036	Brady, T. H.	Insulators	May 26, 1891
445,969	Branch, J. R.	do	Feb. 10, 1891
453,104	Branch, J. R.	Railway signals, cab, sectional rail	May 26, 1891
453,723	Braun, M. M.	Telegraphy, circuit closers, thermal	June 9, 1891
452,255	Bray, T. J.	Towers, telegraph poles	May 12, 1891
435,679	Breed, G.	Telegraphy, circuits and systems	Sept. 2, 1890
435,029	Bremer, W. G.	Lights, sockets, and keys	Aug. 26, 1890
435,030	Bremer, W. G.	Cut-outs, thermal	Aug. 26, 1890
440,822	Bremer, W. G.	Railways, systems, closed conduit	Nov. 18, 1890
443,497	Bremer, W. G.	Cut-outs, thermal	Dec. 30, 1890
443,565	Bremer, W. G.	do	Dec. 30, 1890
438,400	Brennen, G. J.	Connectors	Oct. 14, 1890
432,973	Brewer, H. J.	Batteries, galvanic	July 29, 1890
441,130	Brewer, H. J.	do	Nov. 25, 1890
443,219	Brewer, H. J.	do	Dec. 23, 1890
451,364	Brewer, H. J.	Connectors	Apr. 28, 1891
452,359	Briggs, G. T.	Motors	May 19, 1891
453,898	Brinkerhoff, J. O. and Smith, M. E.	Batteries, galvanic	June 9, 1891
430,331	Bristol, W. H.	Meters	Oct. 28, 1890
466,200	Broichgans, S.	Telegraphy, fire, alarms and extinguishers	Feb. 10, 1891
437,330	Brooks, D., jr.	Conductors, lead-covered	Sept. 30, 1890

No.	NAME.	CLASS.	DATE.
437,913	Brooks, D., jr	Conductors	Oct. 7, 1890
440,584	Brooks, H. H	Railways, systems, overhead, trolleys	Nov. 11, 1890
445,495	Brown, A. H	Alarms	Jan. 27, 1891
441,391	Brown, C. E. L	Magneto-electric	Nov. 25, 1890
446,092	Brown, E. K	do	Feb. 10, 1891
435,343	Brown, F. H	Electrodes	Aug. 26, 1890
435,376	Brown, F. H	do	Aug. 26, 1890
446,730	Brown, F. H	Inductometers, induction coils	Feb. 17, 1891
452,515	Brown, F. H	Railway signals, cab, sectional rail	May 19, 1891
453,618	Brown, H. B	Igniting devices, manual	June 9, 1891
440,691	Brown, H. P	Magneto-electric	Nov. 15, 1890
449,752	Brown, H. P	Electric locomotives	Apr. 7, 1891
437,851	Brown, J. E	Lights, incandescent, special features	Oct. 7, 1890
446,424	Brown, R. G	Telegraphy, multiplex	Feb. 17, 1891
446,425	Brown, R. G	do	Feb. 17, 1891
449,897	Brown, R. G	do	Apr. 7, 1891
449,753	Brownlee, J. N	Towers, telegraph poles	Apr. 7, 1891
445,422	Brush, C. F	Batteries, secondary	Jan. 27, 1891
431,551	Bryant, W. C	Lights, incandescent, special features	July 8, 1890
435,578	Bryant, W. C	Lights, sockets and keys	Sept. 2, 1890
446,767	Buchanan, C. Y	Separators	Feb. 17, 1891
452,633	Buchanan, F	Lights, arc, positive feed, gear-clutch	May 19, 1891
438,837	Buchanan, G	Motors	Oct. 21, 1890
447,746	Buchanan, L. H	Lights, arc, positive feed, gear-clutch	Mar. 3, 1891
452,894	Bundy, W. L	Time checks	May 26, 1891
453,230	Bundy, W. L	do	June 2, 1891
443,475	Bundy, W. L	Cash indicators	Dec. 23, 1890
450,734	Bunker, W. I	Conductors	Apr. 21, 1891
442,796	Burgess, N	Theater appliances	Dec. 16, 1890
442,797	Burgess, N	do	Dec. 16, 1890
436,334	Burley, W	Telephones, electric	Sept. 16, 1890
436,335	Burnley, W	do	Sept. 16, 1890
450,354	Burnley, W	Batteries, galvanic	Apr. 14, 1891
446,660	Burns, W. H	Lights, filaments and carbons	Feb. 17, 1891
445,538	Burrell, S. J. and Markland, W. H	Telephones, calls	Feb. 3, 1891
436,168	Burt, E. M	Railway signals	Sept. 9, 1890
435,110	Burton, G. D	Heaters	Aug. 26, 1890
435,111	Burton, G. D	do	Aug. 26, 1890
438,525	Burton, G. D	do	Oct. 14, 1890
438,723	Burton, G. D	do	Oct. 21, 1890
444,914	Burton, G. D. and Angell, E. E	do	Jan. 20, 1891
432,932	Burton, W. L	do	July 22, 1890
440,303	Bush, A. R	Cut-outs, mechanical	Nov. 11, 1890
442,746	Bush, A. R	Lights, incandescent, special features	Dec. 16, 1890
437,771	Butterfield, H. R	Heaters	Oct. 7, 1890
447,127	Butterfield, H. R	do	Feb. 24, 1891
455,164	Button, G. and Wyeth, W. E	Amalganators	June 30, 1891
441,745	Butz, A. M	Dampers, automatic	Dec. 2, 1890
434,175	Cady, W. E	Lights, arc, gravity feed, clutch	Aug. 12, 1890
446,428	Cahoon, J. B. and Baker, I. F	Railways, systems, overhead, trolleys	Feb. 17, 1891
435,011	Cairns, S. D	do	Aug. 26, 1890
431,248	Cauderay, J	Meters	July 1, 1890
434,501	Cauderay, J	do	Aug. 19, 1890
445,648	Cannell, W	Printing, branding stamps	Feb. 3, 1891
449,035	Capek, J. V	Heaters	Mar. 24, 1891
449,036	Capek, J. V	do	Mar. 24, 1891
441,396	Capps, F. L	Telephones, magnetic	Nov. 25, 1890
449,731	Carlton, J. A. and Johnston, H. L	Railway signals, block systems	Apr. 7, 1891
433,671	Carpenter, C. E	Heaters	Aug. 5, 1890
436,119	Carpenter, C. E	do	Sept. 9, 1890
447,023	Carpenter, C. E	do	Feb. 24, 1891
448,317	Carpenter, C. E	do	Mar. 17, 1891
450,000	Carpenter, H. H	Lights, incandescent, special features	Apr. 7, 1891
432,724	Carr, C. P	Telgraphy, circuits and systems	July 22, 1890
442,799	Carr, R. S	Telephones, mechanical	Dec. 16, 1890
452,516	Carroll, E. and Lambert, T. B	Connectors	May 19, 1891
442,068	Cartwright, D. G. and Potter, J. S	Lights, incandescent, special features	Dec. 16, 1890
441,933	Cartwright, D. J	Cut-outs, thermal	Dec. 2, 1890
450,991	Cartwright, D. J	Lights, incandescent, special features	Apr. 21, 1891
442,856	Carty, J. J	Anti-induction devices	Dec. 16, 1890
449,106	Carty, J. J	Telephones, systems	Mar. 31, 1891
442,610	Casper, L	Indicators	Dec. 16, 1890
452,030	Castner, H. Y	Reducing and separating	May 12, 1891
447,632	Cavert, W. J. and Wiswall, W. P	Railways, systems, overhead, trolleys	Mar. 3, 1891
438,404	Chadbourne, A. H	do	Oct. 14, 1890
438,344	Chaize, N. and J	Telegraphy, circuit closers	Oct. 14, 1890
433,851	Chamberlain, J. C	Railways, systems, battery	Aug. 5, 1890

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No.	NAME.	CLASS.	DATE.
447,230	Chamberlain, J. C.	Railways, systems, battery	Feb. 24, 1891
445,636	Chambers, J. C.	Electrodes	Feb. 3, 1891
448,603	Chaplin, E. D.	Motors	Mar. 17, 1891
453,578	Chapman, N. S.	Railway signals, cab, sectional rail	June 2, 1891
447,939	Chapman, W. H.	Motors	Mar. 10, 1891
452,694	Chappell, G. H.	Indicators	July 22, 1890
452,978	Chase, H. A.	Cut-outs, electro-magnetic	July 29, 1890
452,979	Chase, H. A.	do	July 29, 1890
452,980	Chase, H. A.	Cut-outs, thermal	July 29, 1890
445,161	Chase, H. A.	Printing, hand stamps	Jan. 27, 1891
448,294	Chase, H. A.	Clocks, electric	Mar. 17, 1891
451,397	Chase, H. A.	Telephones, switch-boards	Apr. 28, 1891
452,771	Chase, H. A.	Telegraphy, fire	May 26, 1891
444,330	Chase, J.	Lights, arc, special features	Jan. 6, 1891
434,917	Chassagne, P. J.	Lights, incandescent	Aug. 26, 1890
450,927	Chatard, F. E.	Valve controllers	Apr. 21, 1891
440,013	Chatfield, L. O.	Telegraphy, fire, alarms and extinguishers	Nov. 4, 1890
431,104	Cheever, J. H.	Insulating materials	July 1, 1890
454,938	Chenoweth, A. C.	Conductors, underground	June 30, 1891
454,939	Chenoweth, A. C.	do	June 30, 1891
445,542	Cheswright, H. T.	Batteries, secondary	Feb. 3, 1891
439,929	Child, C. T.	Magneto-electric, couplings	Nov. 4, 1890
452,214	Chisholm, D. J.	Motors	May 12, 1891
436,120	Chubbuck, H. E.	Insulators	Sept. 9, 1890
452,424	Church, A. M.	Clocks, electric	May 19, 1891
437,568	Clark, E.	Conductors	Sept. 30, 1890
449,282	Clark, H. T.	Cut-outs, mechanical	Mar. 31, 1891
447,367	Clark, H. T.	do	Mar. 10, 1891
451,267	Clark, H. T.	do	Apr. 28, 1891
451,268	Clark, H. T.	do	Apr. 28, 1891
454,031	Clark, H. T.	Cut-outs, mechanical, oscillating snap	June 16, 1891
433,445	Clark, J. C.	Recorders	Aug. 3, 1890
446,661	Clarke, G. P.	Magneto-electric, hand machines	Feb. 17, 1891
454,253	Clarke, P.	Lights, arc, positive feed, clutch	June 16, 1891
454,926	Clausen, W. H.	Cut-outs, electro-magnetic	June 30, 1891
440,016	Cleaver, F. J. and Fassold, G.	Regulators	Nov. 4, 1890
447,748	Cleveland, L. W.	Telegraphy, circuit closers	Mar. 3, 1891
441,273	Cliff, E.	Drop lights and hangers	Jan. 6, 1891
440,395	Cobb, H. B.	Vulcanizing apparatus	Nov. 11, 1890
451,614	Cobb, H. B.	Conductors, underground	May 5, 1891
447,505	Coburn, L.	Sliding doors	Mar. 3, 1891
434,376	Cochran, G. W.	Batteries, secondary	Aug. 12, 1890
431,439	Coffin, C. L.	Heaters	July 1, 1890
435,283	Coffin, C. L.	do	Aug. 26, 1890
435,284	Coffin, C. L.	do	Aug. 26, 1890
437,570	Coffin, C. L.	do	Sept. 30, 1890
437,571	Coffin, C. L.	do	Sept. 30, 1890
439,477	Coffin, C. L.	Vending apparatus	Oct. 28, 1890
439,478	Coffin, C. L.	do	Oct. 28, 1890
442,954	Coffin, C. L.	Heaters	Dec. 16, 1890
440,420	Cohlman, W.	Batteries, galvanic	Nov. 11, 1890
442,800	Colby, E. A.	Cut-outs, mechanical	Dec. 16, 1890
445,220	Colby, E. J.	Induction coils	Jan. 27, 1891
446,509	Colby, E. J.	Magnetic locks and bolts	Feb. 17, 1891
445,795	Cole, F. W.	Telegraphy, fire	Feb. 3, 1891
445,796	Cole, F. W.	Annunciators	Feb. 3, 1891
445,797	Cole, F. W.	Telegraphy, repeaters	Feb. 3, 1891
445,798	Cole, F. W.	Telegraphy, fire	Feb. 3, 1891
445,799	Cole, F. W.	do	Feb. 3, 1891
445,800	Cole, F. W.	do	Feb. 3, 1891
445,801	Cole, F. W.	do	Feb. 3, 1891
445,802	Cole, F. W.	do	Feb. 3, 1891
447,869	Cole, F. W.	do	Mar. 10, 1891
449,574	Cole, F. W.	Telegraphy, repeaters	Mar. 31, 1891
449,575	Cole, F. W.	Telegraphy, fire	Mar. 31, 1891
449,576	Cole, F. W.	do	Mar. 31, 1891
452,981	Cole, F. W.	Bells	May 26, 1891
452,932	Cole, F. W.	do	May 26, 1891
452,993	Cole, F. W.	Telegraphy, fire, non-interfering	June 9, 1891
431,559	Colgate, A. E.	Magneto-electric, hand machines	July 8, 1890
433,431	Collier, J. W.	Lights, sockets and keys	Oct. 14, 1890
441,059	Collier, J. W.	do	Nov. 18, 1890
443,936	Collins, J. J.	Batteries, galvanic	Mar. 24, 1891
435,015	Collins, W. F.	Magneto-electric	Aug. 26, 1890
450,219	Collins, W. F.	do	Apr. 14, 1891
451,894	Collins, W. F.	do	May 5, 1891
435,964	Compton, M. D.	Indicators	Sept. 9, 1890

No.	NAME.	CLASS.	DATE.
441,644	Conderman, G. W.	Stovepipe thimbles	Dec. 2, 1890
445,521	Conduct, G. H.	Magneto-electric	Jan. 27, 1891
441,060	Conkling, G.	Separators	Nov. 18, 1890
451,369	Conkling, J. P.	do	Apr. 28, 1891
451,370	Conkling, J. P.	Indicators	Apr. 28, 1891
442,104	Conley, M.	Railway signals	Dec. 9, 1890
435,482	Conly, M. S.	do	Sept. 2, 1890
446,403	Conly, M. S.	Conductors	Feb. 10, 1891
448,604	Conner, W. A.	Conductors, lead-covered	Mar. 17, 1891
452,340	Conner, W. A.	do	May 12, 1891
452,341	Conner, W. A.	do	May 12, 1891
452,342	Conner, W. A.	Electric locomotives	Mar. 24, 1891
448,910	Conradsou, C. M.	Steam valves, throttle	Dec. 16, 1890
442,956	Conroy, T. and Fuhrman, L. P.	Magneto-electric	Jan. 13, 1891
444,794	Cook, A. S.	Railways, systems, overhead, trolleys	May 19, 1891
452,542	Cook, D. N.	Railway signals	Feb. 17, 1891
446,546	Cook, W. S. and M. C.	Telegraphy, railway-car	Mar. 10, 1891
447,943	Cook, W. S. and M. C.	Lighting, systems	July 22, 1890
432,745	Cooke, E. T. and Mackay, W. H.	Lamps and gas fittings, reflectors	Mar. 31, 1891
449,403	Cooley, F.	Conductors, underground	Dec. 30, 1890
443,823	Cope, T. J.	do	Dec. 30, 1890
443,824	Cope, T. J.	Railways, systems, battery	Aug. 19, 1890
434,579	Corning, F. G.	do	Aug. 19, 1890
434,580	Corning, F. G.	do	Aug. 19, 1890
434,581	Corning, F. G.	do	Aug. 19, 1890
434,582	Corning, F. G.	do	Aug. 19, 1890
434,863	Corning, F. G.	do	Aug. 19, 1890
439,237	Corning, F. G.	do	Oct. 28, 1890
435,801	Cortese, M.	Railway signals	Sept. 2, 1890
451,634	Corwin, W. S.	Telephones, magnetic	May 5, 1891
432,512	Coughlin, D. E.	Weaving, stopping	July 22, 1890
434,427	Cox, H. B.	Batteries, thermal	Aug. 19, 1890
434,428	Cox, H. B.	do	Aug. 19, 1890
434,429	Cox, H. B.	do	Aug. 19, 1890
434,500	Cox, H. B.	do	Aug. 19, 1890
450,558	Cox, W.	Annunciators	Apr. 14, 1891
448,125	Crabtree, L. T.	do	Mar. 10, 1891
447,558	Cram, W. E.	do	Mar. 3, 1891
442,018	Crampton, T. P. C.	Lights, arc, gravity feed, clutch	Dec. 2, 1890
445,545	Crane, M. G.	Telegraphy, fire	Feb. 3, 1891
449,206	Crane, M. G.	Bells	Mar. 31, 1891
452,166	Crane, M. G.	do	May 12, 1891
452,165	Crane, M. G. and Cole, F. W.	Annunciators	May 12, 1891
444,819	Cregier, N. B.	Telegraphy, railway-car	Jan. 20, 1891
450,708	Creighton, T.	Insulators	Apr. 21, 1891
448,128	Crisp, J. A. and Webb, G. F.	Medical and surgical, body-wear	Mar. 10, 1891
452,176	Christiansen, J.	Electric locomotives	May 12, 1891
438,530	Crockett, C. H. and Dedrick, L. C.	Telegraphy, keys	Oct. 14, 1890
437,393	Crosby, E. H.	Batteries, galvanic	Sept. 30, 1890
448,505	Crow, B. F.	Railways, systems, overhead	Mar. 17, 1891
445,425	Crowdus, W. A.	Batteries, galvanic	Jan. 27, 1891
450,285	Crowdus, W. A.	do	Apr. 14, 1891
436,122	Crowell, H. H.	Cut-outs, mechanical	Sept. 9, 1890
450,613	Culver, F. S.	Railways, systems, overhead	Apr. 21, 1891
443,270	Cummings, G. P.	Metal, curved surfaces	Dec. 23, 1890
433,770	Cunnington, J. G. L.	Cut-outs, thermal	Aug. 5, 1890
450,221	Cunyngham, H. H., Rawson, F. L. and Woodhouse, O. E.	Galvanometers	Apr. 14, 1891
431,649	Currie, S. C. C.	Electric locomotives	July 8, 1890
434,382	Currie, S. C. C.	Applications, tools and machines	Aug. 12, 1890
438,145	Currie, S. C. C.	Lighting, systems, secondary battery	Oct. 14, 1890
438,226	Currie, S. C. C.	Galvanometers	Oct. 14, 1890
438,532	Currie, S. C. C.	Batteries, secondary	Oct. 14, 1890
442,423	Currie, S. C. C.	Galvanometers	Dec. 9, 1890
444,392	Currie, S. C. C.	Batteries, secondary	Jan. 6, 1891
447,279	Currie, S. C. C.	do	Feb. 24, 1891
450,834	Currie, S. C. C.	do	Apr. 21, 1891
453,995	Currie, S. C. C.	do	June 9, 1891
446,732	Currier, J. B. and Rice, D. H.	Telephones, calls	Feb. 17, 1891
435,536	Curtis, H. N.	Railways, systems, conduit	Sept. 2, 1890
445,259	Curtis, W. B. and Himrod, C.	Lamp shades	Jan. 27, 1891
449,209	Curtiss, G. F.	Cut-outs, thermal	Mar. 31, 1891
452,565	Curry, W.	Conductors	May 19, 1891
440,789	Cushing, R. D.	Railways, systems, overhead, trolleys	Nov. 18, 1890
445,727	Cutler, H. H.	Igniting devices, automatic	Feb. 3, 1891
445,728	Cutler, H. H.	do	Feb. 3, 1891
433,619	Cutler, J. L.	Telephones, calls	Aug. 5, 1890

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No.	NAME.	CLASS.	DATE.
444,377	Cutter, G.	Conductors, underground	Jan. 6, 1891
445,310	Cutter, G. and Armstrong, C. G.	Cut-outs, mechanical	Jan. 27, 1891
431,035	Daft, L.	Cut-outs, electro-magnetic	July 1, 1890
437,682	Dauon, G. L.	Magnetic locks and bolts	Oct. 7, 1890
451,108	Danals, C. A. and Perry, W. O.	Drop lights and hangers	Apr. 28, 1891
453,466	Darling, E. A.	Alarms, burglar	June 2, 1891
436,777	Davidson, B. R.	Railway signals	Sept. 23, 1890
453,337	Davis, C. E.	Cut-outs, thermal	June 2, 1891
433,981	Davis, E.	Telephones, electric	Aug. 12, 1890
453,558	Davis, H. and Stokes, A. H.	Magneto-electric	June 9, 1891
450,577	Davis, J.	Induction coils	Apr. 14, 1891
449,468	Davis, J. V.	Scale beams	Mar. 31, 1891
451,689	Davis, M. G.	Telegraphy, fire	May 5, 1891
444,424	Dawes, A.	Drop lights and hangers	Jan. 13, 1891
451,649	Dayton, C. A.	Valve controllers	May 5, 1891
451,656	Deacon, S. and Wightman, M. J.	Lights, sockets and keys	May 5, 1891
439,345	Dean, F. W.	Electric locomotives	Oct. 28, 1890
449,362	Dean, J. H.	Motors	Mar. 31, 1891
435,213	Deane, W. H.	Time alarms	Aug. 26, 1890
432,022	De Castro, A.	Induction coils	July 15, 1890
454,717	Decker, P.	Applications, general	June 23, 1891
436,219	Deeds, H. W.	Valve-controllers	Sept. 9, 1890
434,922	Deerow, W. E.	Telegraphy, fire	Aug. 26, 1890
435,114	De Ferranti, S. Z.	Inductoriums, transformers, stationary	Aug. 26, 1890
440,224	De Ferranti, S. Z.	Systems of distribution	Nov. 11, 1890
440,627	De Ferranti, S. Z.	Meters	Nov. 18, 1890
431,181	Delany, P. B.	Bells	July 1, 1890
431,651	Delany, P. B.	Telegraphy, multiplex	July 8, 1890
440,766	Delany, P. B.	do	Nov. 18, 1890
440,767	Delany, P. B.	do	Nov. 18, 1890
440,768	Delany, P. B.	do	Nov. 18, 1890
450,615	Delany, P. B.	Annunciators	Apr. 21, 1891
452,871	Deming, E.	Telegraphy, railway-car	May 26, 1891
452,872	Deming, E.	Railway signals, cab, sectional rail	May 26, 1891
452,873	Deming, E.	do	May 26, 1891
452,874	Deming, E.	do	May 26, 1891
443,748	Dempster, J. T.	Lights, sockets and keys	Dec. 30, 1890
431,564	Denison, S. P.	Sawing metal	July 8, 1890
441,967	De Peralta, C. G.	Batteries, galvanic	Dec. 2, 1890
449,860	De Place, L.	Applications, general	Feb. 3, 1891
449,348	Depp, O. J.	Cut-outs, mechanical	Mar. 31, 1891
442,074	Depp, O. J. and Munn, S. J.	Railway signals	Dec. 16, 1890
437,412	Deprez, M.	Rheostats	Sept. 30, 1890
435,558	Desant, W. F. Z.	Railway signals	Sept. 2, 1890
449,108	Desant, W. F. Z.	Cash indicators	Mar. 31, 1891
454,995	Des Brisay, J.	Cut-outs, mechanical	June 30, 1891
433,560	Detwiller, W. B.	Letter boxes	Aug. 5, 1890
432,727	Dewey, M. W.	Heaters	July 22, 1890
435,642	Dewey, M. W.	Electric locomotives	Sept. 2, 1890
435,643	Dewey, M. W.	Heaters	Sept. 2, 1890
435,644	Dewey, M. W.	do	Sept. 2, 1890
436,125	Dewey, M. W.	do	Sept. 9, 1890
433,519	Dewey, M. W.	do	Sept. 16, 1890
438,406	Dewey, M. W.	do	Oct. 14, 1890
433,407	Dewey, M. W.	do	Oct. 14, 1890
438,408	Dewey, M. W.	do	Oct. 14, 1890
433,409	Dewey, M. W.	do	Oct. 14, 1890
439,577	Dewey, M. W.	Applications, tools and machines	Oct. 28, 1890
439,867	Dewey, M. W.	Railways, systems, circuits, series	Nov. 4, 1890
441,401	Dewey, M. W.	Heaters	Nov. 25, 1890
441,828	Dewey, M. W.	Railways, systems	Dec. 2, 1890
442,365	Dewey, M. W.	do	Dec. 9, 1890
443,748	Dewey, M. W.	Heaters	Dec. 30, 1890
443,749	Dewey, M. W.	do	Dec. 30, 1890
445,770	Dewey, M. W.	do	Feb. 3, 1891
445,771	Dewey, M. W.	do	Feb. 3, 1891
446,703	Dewey, M. W.	Applications, general	Feb. 17, 1891
447,194	Dewey, M. W.	Heaters	Feb. 24, 1891
448,579	Dewey, M. W.	do	Mar. 24, 1891
449,404	Dewey, M. W.	do	Mar. 31, 1891
451,239	Dewey, M. W.	do	Apr. 28, 1891
451,240	Dewey, M. W.	do	Apr. 28, 1891
452,099	Dewey, M. W.	Railways, systems, double	May 12, 1891
452,775	Dickson, C. T.	Telephones, details	May 26, 1891
431,879	Dickerson, E. N.	Systems of distribution	July 8, 1890
433,451	Dickerson, E. N.	Batteries, thermal	Aug. 5, 1890
448,322	Digeon, L.	Telephones, systems	Mar. 17, 1891

No.	NAME.	CLASS.	DATE.
431,038	Dillon, L. W.	Lights, incandescent, special features	July 1, 1890
454,166	Dillon, T.	Street lamp hangers	June 16, 1891
438,773	Dinn, P. J.	Lamp posts	Oct. 21, 1890
431,447	Dixon, T. S. E.	Batteries, secondary	July 1, 1890
452,992	Dobbie, R. S.	Electric locomotives	May 26, 1891
445,442	Doggett, J.	Telegraphy, relays and sounders	Jan. 27, 1891
431,565	Donnelly, A. G.	Marine torpedoes	July 8, 1890
446,831	Donovan, T. J.	Heaters	Feb. 17, 1891
452,599	Dooley, T. B.	Miscellaneous compositions	May 19, 1891
452,072	Doucet, S. J.	Railway signals, cab, sectional rail	May 12, 1891
431,883	Douglass, L. F.	Phonographs	July 8, 1890
445,981	Douse, T. R.	Telegraphy, circuit closers, thermal	Feb. 3, 1891
451,996	Dow, W. E.	Drop lights and hangers	May 12, 1891
451,997	Dow, W. E.	Cut-outs, thermal	May 12, 1891
446,130	Downey, G. W.	Lightning rods	Feb. 10, 1891
432,988	Doyle, C. B.	Motors	July 29, 1890
436,560	Doyle, G.	Bells	Sept. 16, 1890
441,293	Doyle, J.	Rheostats	Nov. 25, 1890
440,699	Dressler, C. E.	Motors	Nov. 18, 1890
440,700	Dressler, C. E.	Inductoriums, transformers, rotary	Nov. 18, 1890
442,173	Dressler, C. E.	Magneto-electric	Dec. 9, 1890
445,499	Dressell, W. M.	Motors	Jan. 27, 1891
439,724	Drew, C. W. and Francis, E. R.	Heaters	Nov. 4, 1890
454,979	Drew, C. W. and Francis, E. R.	do	June 30, 1891
451,300	Drew, H. P.	Lights, incandescent, special features	Apr. 28, 1891
434,584	Drew, W. W.	Registers	Aug. 19, 1890
431,256	Drown, F. E.	Electric locomotives	July 1, 1890
453,041	Drysdale, W. A.	Lights, incandescent, special features	May 26, 1891
442,868	Du Bois, J. S.	Conductors, underground	Dec. 16, 1890
447,105	Dudley, W. J.	Clocks, electric	Feb. 24, 1891
449,774	Duennen, H.	Magneto-electric	Apr. 7, 1891
437,293	Dugan, H. F.	Vending apparatus	Sept. 30, 1890
435,559	Duggan, J. A.	Railways, systems, overhead, trolleys	Sept. 2, 1890
434,144	Dunbar, J. K.	Insulators	Aug. 12, 1890
454,536	Duncan, W.	Railways, systems, overhead, trolleys	June 23, 1891
442,516	Dutton, C. E., jr.	Batteries, galvanic	Dec. 9, 1890
437,183	Dyer, R. N.	Meters	Sept. 30, 1890
439,838	Dyson, J. H.	Clocks, electric	Nov. 4, 1890
433,523	Easton, J. W.	Magneto-electric	Aug. 5, 1890
436,733	Easton, J. W.	Insulating materials	Sept. 16, 1890
445,546	Easton, J. W.	Lights, arc, gravity feed, gear-clutch	Feb. 3, 1891
448,418	Easton, J. W.	do	Mar. 17, 1891
449,902	Easton, J. W.	Drop lights and hangers	Apr. 7, 1891
449,903	Easton, J. W.	Telegraphy, lightning arresters	Apr. 7, 1891
449,407	Easton, J. W.	Lamp shades	Mar. 31, 1891
453,323	Ebert, W. H.	Lighting, systems, test	June 2, 1891
438,592	Eckert, W. H. and Gregory, W. H.	Conductors	Oct. 14, 1890
442,575	Eckert, W. H. and Gregory, W. H.	Lighting, systems	Dec. 9, 1890
448,325	Edgerton, E. M.	Time alarms	Mar. 17, 1891
432,748	Edgerton, N. H.	Magneto-electric	July 22, 1890
442,870	Edgerton, N. H.	do	Dec. 16, 1890
434,585	Edison, T. A.	Telegraphy, relays and sounders	Aug. 19, 1890
435,586	Edison, T. A.	Pyro-magneto electric devices	Aug. 19, 1890
434,587	Edison, T. A.	Batteries, thermal	Aug. 19, 1890
434,588	Edison, T. A. and Dickson, W. K. L.	Separators	Aug. 19, 1890
434,589	Edison, T. A.	Electric locomotives	Aug. 19, 1890
435,687	Edison, T. A.	Batteries, secondary, applications	Sept. 2, 1890
435,688	Edison, T. A.	Batteries, galvanic	Sept. 2, 1890
435,689	Edison, T. A.	Telegraphy, duplex	Sept. 2, 1890
435,690	Edison, T. A.	Magneto-electric	Sept. 2, 1890
436,127	Edison, T. A.	Transmission of power	Sept. 9, 1890
437,422	Edison, T. A.	Telegraphy, circuits and systems	Sept. 30, 1890
437,428	Edison, T. A.	Clutches, intermittent-grip	Sept. 30, 1890
438,298	Edison, T. A.	Lights, incandescent	Oct. 14, 1890
438,299	Edison, T. A.	Lights, filaments and carbons	Oct. 14, 1890
438,301	Edison, T. A.	Cut-outs, electro-magnetic	Oct. 14, 1890
438,302	Edison, T. A.	Magneto-electric	Oct. 14, 1890
438,303	Edison, T. A.	Lights, arc, positive feed, gear-clutch	Oct. 14, 1890
438,304	Edison, T. A.	Telephones, calls	Oct. 14, 1890
438,305	Edison, T. A.	Cut-outs, thermal	Oct. 14, 1890
438,306	Edison, T. A. and Gilliland, E. T.	Telephones, electric	Oct. 14, 1890
438,307	Edison, T. A.	Lights, incandescent	Oct. 14, 1890
438,308	Edison, T. A.	Systems of distribution	Oct. 14, 1890
438,309	Edisou, T. A.	Insulating materials	Oct. 14, 1890
438,310	Edisou, T. A.	Lights, sockets and keys	Oct. 14, 1890
439,389	Edison, T. A.	Lighting, systems	Oct. 28, 1890
439,390	Edison, T. A.	Lighting, systems, secondary battery	Oct. 28, 1890

No.	NAME.	CLASS.	DATE.
439,391	Edison, T. A.	Conductors, underground	Oct. 28, 1890
439,392	Edison, T. A.	Lighting, systems	Oct. 28, 1890
439,393	Edison, T. A.	Lights, filaments and carbons	Oct. 28, 1890
444,530	Edison, T. A.	Lights, incandescent	Jan. 13, 1891
446,666	Edison, T. A.	Lighting, systems, secondary battery	Feb. 17, 1891
446,667	Edison, T. A.	Electric locomotives	Feb. 17, 1891
446,668	Edison, T. A.	Lights, arc, gravity feed, clutch	Feb. 17, 1891
446,669	Edison, T. A.	Lights, filaments and carbons	Feb. 17, 1891
448,778	Edison, T. A.	Railways, systems, circuits, multiple arc	Mar. 24, 1891
448,779	Edison, T. A.	Telegraphy, circuits and systems	Mar. 24, 1891
452,913	Edison, T. A.	Telegraphy, duplex	May 26, 1891
453,601	Edison, T. A.	Telegraphy, multiplex	June 2, 1891
454,262	Edison, T. A.	Lights, filaments and carbons	June 16, 1891
454,558	Edison, T. A.	Lights, incandescent	June 23, 1891
443,360	Edson, J. B.	Recorders	Dec. 23, 1890
453,111	Edson, W.	Cut-outs, thermal	May 26, 1891
447,177	Edwards, T. M.	Lighting, systems	Feb. 24, 1891
446,704	Edwards, W. C.	Separators	Feb. 17, 1891
451,208	Edwards, W. C.	do	Apr. 28, 1891
449,847	Eggers, F. F.	Dental instruments	Apr. 7, 1891
434,557	Eickemeyer, R.	Galvanometers	Aug. 19, 1890
434,558	Eickemeyer, R.	do	Aug. 19, 1890
443,671	Eickemeyer, R.	Electric locomotives	Dec. 30, 1890
448,326	Eickemeyer, R.	Motors, alternating	Mar. 17, 1891
448,831	Eickemeyer, R.	Railways, systems, overhead	Mar. 24, 1891
450,367	Eickemeyer, R.	Magneto-electric	Apr. 14, 1891
451,320	Eickemeyer, R.	Motors, reciprocating	Apr. 28, 1891
453,167	Eickemeyer, R.	Electric locomotives	May 26, 1891
454,207	Eickemeyer, R., jr.	Rheostats	June 16, 1891
454,336	Eickemeyer, R.	Magneto-electric	June 16, 1891
454,462	Eickemeyer, R.	Applications, tools and machines	June 23, 1891
436,936	Eisenhuth, J. W.	Air and gas engines, explosive	Sept. 23, 1890
437,754	Einstein, J. and Kornprobst, S.	Meters	Oct. 7, 1890
446,641	Elfering, J. H.	Annunciators	Feb. 17, 1891
443,642	Elieson, C. P.	Meters	Dec. 30, 1890
444,879	Elkins, C.	Insulators	Jan. 20, 1891
444,977	Elkins, W. H.	Lights, arc, gravity feed, clutch	Jan. 20, 1891
445,136	Elkins, W. H.	do	Jan. 20, 1891
439,726	Elliott, G. R.	Store service, gravity	Nov. 4, 1890
435,486	Elliott, W. R.	Railways, systems, closed conduit	Sept. 2, 1890
435,487	Elliott, W. R.	do	Sept. 2, 1890
446,284	Ellis, A. L.	Regulators	Feb. 10, 1891
443,991	Ellis, S. R.	Theater appliances	Jan. 6, 1891
453,693	Ells, J. W.	Lights, arc, positive feed, gear-clutch	June 9, 1891
445,773	Ely, E. S.	Indicators	Feb. 3, 1891
433,724	Emme, C. A.	Door bells	Aug. 5, 1890
439,746	Emmet, W. Le R.	Railways, systems, overhead	Nov. 4, 1890
441,753	Emmet, W. Le R.	Bailways, systems, overhead, trolleys	Dec. 2, 1890
443,174	Emmet, W. Le R.	Railways, conductor supports and insulators	Dec. 23, 1890
443,503	Emmet, W. Le R.	do	Dec. 30, 1890
451,177	Emmet, W. Le R.	Magneto-electric	Apr. 28, 1891
437,832	Emmner, J., jr.	Motors	Oct. 7, 1890
451,921	Emmner, J., jr.	Batteries, secondary	May 12, 1891
454,724	Emmner, J., jr.	Batteries, galvanic	June 23, 1891
432,387	Enholm, O. A.	Magneto-electric	July 15, 1890
435,311	Enholm, O. A.	Insulating materials	Oct. 14, 1890
438,312	Enholm, O. A.	Glass and pottery, jars	Oct. 14, 1890
438,313	Enholm, O. A.	Insulating materials	Oct. 14, 1890
441,403	Enholm, O. A.	Batteries, galvanic	Nov. 25, 1890
441,542	Enholm, O. A.	Systems of distribution	Nov. 25, 1890
441,543	Enholm, O. A.	Lights, arc, gravity feed, clutch	Nov. 25, 1890
434,590	Entz, J. B.	Magneto-electric	Aug. 19, 1890
444,486	Entz, J. B.	do	Jan. 13, 1891
448,328	Entz, J. B.	Railways, systems	Mar. 17, 1891
440,023	Entz, J. B. and Phillips, W. A.	Batteries, secondary	Nov. 4, 1890
440,024	Entz, J. B. and Phillips, W. A.	do	Nov. 4, 1890
455,187	Erlwein, G.	Lights, filaments and carbons	June 30, 1891
448,915	Erlwein, G.	do	Mar. 24, 1891
448,916	Erlwein, G.	do	Mar. 24, 1891
448,914	Erlwein, G. and Heller, F. G. A.	do	Mar. 24, 1891
443,134	Essick, S. V. B.	Telegraphy, printing	Dec. 23, 1890
443,135	Essick, S. V. B.	do	Dec. 23, 1890
443,136	Essick, S. V. B.	do	Dec. 23, 1890
454,338	Essick, S. V. B.	Telegraphy, relays and sounders	June 16, 1891
435,292	Etheridge, H.	Telegraphy, automatic	Aug. 26, 1890
445,715	Etheridge, H.	do	Feb. 3, 1891
445,716	Etheridge, H.	do	Feb. 3, 1891

No.	NAME.	CLASS.	DATE.
450,099	Fahnehjelm, O. B	Gas burners, incandescent	Apr. 7, 1891
454,038	Fanning, J. J	Lighting, systems	June 16, 1891
445,051	Faries, R. P	Electric locomotives	Jan. 20, 1891
448,644	Farmer, M. G	Inductors, transformers, stationary	Mar. 24, 1891
444,108	Farnham, I. H	Telephones, systems	Jan. 6, 1891
451,922	Farnham, I. H	Telephones, toll	May 12, 1891
448,711	Farnham, I. H	Railways, systems, overhead	Mar. 24, 1891
439,238	Faught, L. A	Dental instruments	Oct. 28, 1890
438,579	Faunce, A. B. and Cabell, S. G	Incrustation	Oct. 14, 1890
443,636	Fanre, C. A	Meters	Dec. 30, 1890
431,185	Favor, L. B	Cut-outs, thermal	July 1, 1890
431,186	Favor, L. B	do	July 1, 1890
431,718	Favor, L. B	do	July 8, 1890
452,875	Favor, L. B	do	May 26, 1891
443,478	Feary, F. T. and Speicher, J	Telegraphy, fire	Dec. 23, 1890
454,904	Fletcher, J. R	Cut-outs, thermal	June 30, 1891
433,459	Ferrell, I. M	Lightning rods	Aug. 5, 1890
452,494	Fessenden, R. A	Lights, incandescent	May 19, 1891
453,742	Fessenden, R. A	do	June 9, 1891
432,521	Field, S. D	Cut-outs, thermal	July 22, 1890
433,120	Field, S. D	Telephones, electric	July 29, 1890
436,408	Field, S. D	Magneto-electric	Sept. 16, 1890
446,966	Field, S. D	Cut-outs, thermal	Feb. 24, 1891
448,329	Field, S. D	Telephones, magnetic	Mar. 17, 1891
439,347	Fields, J. F	Medical and surgical, body-wear	Oct. 28, 1890
434,593	Fink, W. M	Batteries, galvanic	Aug. 19, 1890
449,672	Finn, H. J. and Garner, J. A	Telegraphy, railway-ear	Apr. 7, 1891
432,823	Finney, G. S	Separators	July 22, 1890
442,042	Finnyc, G. S	do	Dec. 16, 1890
442,043	Finney, G. S	do	Dec. 16, 1890
442,044	Finney, G. S	do	Dec. 16, 1890
449,245	Fisher, B. H	Regulators	Mar. 31, 1891
442,029	Fisher, F. E	Annunciators	Dec. 2, 1890
442,030	Fisher, F. E	Cut-outs, mechanical	Dec. 2, 1890
452,367	Fischer, J. G	Lights, incandescent, special features	May 19, 1891
450,228	Fisk, P. H	Telegraphy, printing	Apr. 14, 1891
444,217	Fiske, B. A	Distance instruments	Jan. 6, 1891
445,549	Fitch, G	Drop lights and hangers	Feb. 3, 1891
434,925	Fitch, H. A	Lights, incandescent, special features	Ang. 26, 1890
442,969	Fitz-Gerald, D. G. and Hough, A. H	Batteries, secondary	Dec. 16, 1890
452,636	Fitzimmons, P	Telephones, electric	May 19, 1891
453,581	Fitzimmons, P	do	June 2, 1891
452,780	Flagg, I. J	Lights, incandescent	May 26, 1891
439,395	Fleischer, R. J	Railways, systems, battery	Oct. 28, 1890
432,131	Flemming, O	Rheostats	July 15, 1890
451,730	Fletcher, J. R	Towers, telegraph poles	May 5, 1891
454,903	Fletcher, J. R	Railways, systems, overhead	June 30, 1891
446,967	Flowers, M. I	Magnetic locks and bolts	Feb. 24, 1891
431,885	Focer, D	Alarms	July 8, 1890
431,341	Foote, T. M	Batteries, secondary	July 1, 1890
433,400	Foote, T. M	Motors	July 29, 1890
433,401	Foote, T. M	Electric locomotives	July 29, 1890
433,402	Foote, T. M	do	July 29, 1890
434,180	Foote, T. M	Motors	Aug. 12, 1890
434,181	Foote, T. M	Testing machines	Aug. 12, 1890
434,261	Foote, T. M	Telegraphy, printing	Aug. 12, 1890
435,490	Foote, T. M	Regulators	Sept. 2, 1890
454,643	Foote, G. L. and Moore, W. C	Telephones, calls, step-by-step	June 23, 1891
435,295	Ford, W. H	Telephones, systems, automatic	Aug. 26, 1890
451,815	Ford, W. H	Railways, systems, closed conduit	May 5, 1891
447,767	Forgason, H. C	Lights, arc, gravity feed, clutch	Mar. 10, 1891
449,153	Foster, H. A	Lights, arc, special features	Mar. 31, 1891
445,594	Foster, C. and Bevis, W. H	Railways, conductor supports and insulators	Feb. 3, 1891
433,893	Fottrell, J	Insulating materials	Aug. 5, 1890
434,017	Fowler, H. E	Heaters	Aug. 12, 1890
434,774	Fox, E. M	Thermometers	Aug. 19, 1890
447,768	Francis, J. C	Telephones, systems	Mar. 10, 1891
435,296	Franklin, E	Magneto-electric	Aug. 26, 1890
439,295	Fraser, W. J	Recorders	Oct. 28, 1890
442,577	Fraser, W. S	Lamp shades	Dec. 9, 1890
440,424	Freeman, W. K	Magneto-electric	Nov. 11, 1890
440,425	Freeman, W. K	do	Nov. 11, 1890
440,557	Freeman, W. K	do	Nov. 11, 1890
441,793	Freeman, W. K	do	Dec. 2, 1890
441,794	Freeman, W. K	Regulators	Dec. 2, 1890
452,934	Freeman, W. K	Magneto-electric	May 26, 1891
452,935	Freeman, W. K	Meters	May 26, 1891

No.	NAME.	CLASS.	DATE.
452,936	Freeman, W. K.	Meters	May 26, 1891
452,937	Freeman, W. K.	Motors	May 26, 1891
432,234	Frey, A. C.	Cut-outs, mechanical	July 15, 1890
438,882	Frey, C. P.	Galvanometers	Oct. 21, 1890
448,331	Frietsch, K. G.	Magneto-electric	Mar. 17, 1891
451,037	Frost, E. J.	Carburetors, gas and air mixers	Apr. 28, 1891
435,582	Fuller, F. L.	Time checks	Sept. 2, 1890
444,295	Fuller, I. A.	Water gages, float	Jan. 6, 1891
443,435	Fuller, I. D.	Time checks	Dec. 23, 1890
444,169	Fuller, L. K.	Musie, electric actions	Jan. 6, 1891
448,958	Fuller, W. C.	Medical and surgical, body-wear	Mar. 24, 1891
433,561	Furlong, L.	Insulators	Aug. 5, 1890
453,633	Furlong, L. F. and Tucker, F. O.	Cut-outs, mechanical	June 9, 1891
431,141	Gale, G. F.	Telegraphy, fire	July 1, 1890
448,712	Gallagher, J. J.	Alarms	Mar. 24, 1891
447,676	Gammon, G. C.	Cut-outs, electro-magnetic	Mar. 3, 1891
455,037	Gardner, F.	Drilling and boring	June 30, 1891
444,881	Gardiner, J. B.	Electrodes	Jan. 20, 1891
435,116	Gardiner, R. M.	Lights, are, speial features	Aug. 26, 1890
442,370	Garland, W. H.	Connectors	Dec. 9, 1890
439,775	Gartner, A.	Regulators	Nov. 4, 1890
452,638	Gärtner, A. F. and Harris, J. C.	Lamps and gas fittings, globes	May 19, 1891
452,701	Gärtner, A. F. and Harris, J. C.	do	May 19, 1891
450,581	Gatley, E. J.	Lights, are, special features	Apr. 14, 1891
437,685	Gaynor, T. F.	Insulators	Oct. 7, 1890
451,121	Gaynor, T. F.	Bells	Apr. 28, 1891
445,991	Gaynor, T. F.	Annunciators	Feb. 10, 1891
451,666	Gee, E. C.	Time checks	May 5, 1891
436,410	Geary, J.	Bells	Sept. 16, 1890
438,233	Geary, J.	Telegraphy, relays and sounders	Oct. 14, 1890
438,234	Geary, J.	Alarms, burglar	Oct. 14, 1890
449,474	Gibbs, G.	Lighting systems, ear	Mar. 31, 1891
450,101	Gibbs, J. S.	Cut-outs, thermal	Apr. 7, 1891
436,080	Gibbs, J. S. and Perkins, C. G.	Cut-outs, mechanical	Sept. 9, 1890
439,240	Gibson, C. D. P.	Batteries, secondary	Oct. 28, 1890
439,939	Gilbert, E. R.	Rheostats	Nov. 4, 1890
438,619	Giles, J. E.	Lighting, systems	Oct. 21, 1890
442,617	Giles, J. E.	Lights, arc, gravity feed, gear-clutch	Dec. 16, 1890
438,620	Gillette, H.	Railway gates, elcetric	Oct. 21, 1890
442,114	Gillette, H.	do	Dec. 9, 1890
444,525	Gillette, H.	do	Jan. 20, 1891
438,434	Ginochio, N. B.	Magneto-electric, hand machines	Oct. 14, 1890
447,045	Ginoehio, N. B.	Telegraphy, fire	Feb. 24, 1891
438,314	Gipperich, A.	Cloeks, electric	Oct. 14, 1890
433,167	Glover, J. B.	Indicators	July 29, 1890
439,398	Goddard, C.	Cut-outs, thermal	Oct. 28, 1890
432,526	Goehst, J. H.	Lamp shades	July 22, 1890
443,674	Goldsehmidt, P.	Cordage, warp, stop motion	Dec. 30, 1890
439,941	Goldstone, L.	Indicators	Nov. 4, 1890
453,000	Goodridge, W. M.	Telephones, switeh-boards	May 26, 1891
436,703	Goodson, G. A.	Printing, matrix-making	Sept. 16, 1890
431,968	Goodwin, C. R.	Batteries, galvanie	July 8, 1890
431,742	Goodwin, C. R.	do	July 8, 1890
434,827	Gorton, A.	Railways, systems, closed conduit	Aug. 19, 1890
436,779	Goss, E. W.	Electric locomotives	Sept. 23, 1890
436,412	Goold, F. D'A.	Lights, sockets and keys	Sept. 16, 1890
447,426	Gould, C. C.	Telephones, systems	Mar. 3, 1891
451,377	Gould, R. H.	Lighting, systems	Apr. 28, 1891
433,234	Gould, W. P.	Shovels, tongs, and pokers	July 29, 1890
448,856	Graff, E. D.	Railway signals, eab, sectional rail	Mar. 24, 1891
437,986	Graham, A.	Telephones, systems	Oct. 7, 1890
432,197	Graham, R.	Igniting devices, manual	July 15, 1890
448,956	Graham, G. H. and Gaunane, T.	Insulators	Mar. 24, 1891
451,242	Grant, P.	Magneto-electric	Apr. 28, 1891
439,840	Granville, W. P.	Ship's logs	Nov. 4, 1890
435,967	Graves, W. D.	Lights, are, gravity feed, gear-clutch	Sept. 9, 1890
452,429	Gray, E.	Motors	May 19, 1891
448,024	Gray, W.	Coin controlled apparatus, miscellaneous	Mar. 10, 1891
450,068	Grefen, H.	Magnetic locks and bolts	Apr. 7, 1891
441,837	Greenfield, E. T.	Conductors	Dee. 2, 1890
441,838	Greenfield, E. T.	Rheostats	Dec. 2, 1890
441,840	Greenfield, E. T.	Conductors, underground	Dee. 2, 1890
454,430	Greenfield, E. T.	Connectors	June 16, 1891
453,695	Griscom, W. W.	Batteries, secondary	June 9, 1891
435,744	Groswith, H.	Motors	Sept. 2, 1890
441,953	Groswith, H.	do	Dec. 2, 1890
441,954	Groswith, H.	do	Dec. 2, 1890

No.	NAME.	CLASS.	DATE.
442,115	Groth, L. A	Tanning processes	Dec. 9, 1890
450,458	Gruschow, R. H	Annunciators, drop	Apr. 14, 1891
431,578	Guerrant, G. M	Engraving machines	July 8, 1890
454,344	Guiley, A. H. R	Railway signals, cab, sectional rail	June 16, 1891
442,666	Gunn, J	Lights, incandescent, special features	Dec. 16, 1890
437,111	Gunning, J. H	Rheostats	Sept. 23, 1890
452,220	Gunning, J. H	Electrodes	May 12, 1891
431,460	Gutmann, L	Systems of distribution	July 1, 1890
446,515	Gutmann, L	do	Feb. 17, 1891
446,864	Gutmann, L	Motors, alternating	Feb. 24, 1891
447,315	Gutman, H. J	Lights, sockets and keys	Mar. 3, 1891
453,696	Hadlock, W. E	Indicators	June 9, 1891
442,879	Haight, H. J	Thermometers	Dec. 16, 1890
442,880	Haight, H. J	Indicators	Dec. 16, 1890
442,881	Haight, H. J	do	Dec. 16, 1890
442,882	Haight, H. J	do	Dec. 16, 1890
442,883	Haight, H. J	do	June 30, 1891
454,867	Haight, H. J	do	July 1, 1890
431,516	Haines, A. Z. and Curry, J. H	Cut-outs, mechanical	Apr. 28, 1891
451,379	Haines, R. D	Insulators	Nov. 25, 1890
441,157	Hale, C. A	Annunciators	Nov. 11, 1890
440,563	Hale, G. C. and Barrett, A	Telegraphy, fire	Jan. 13, 1891
444,700	Hall, A. W	Railway signals	May 26, 1891
453,046	Hall, G. L	Lighting, systems	Apr. 7, 1891
449,777	Hall, O. B	Towers, telegraph poles	Aug. 5, 1890
433,896	Hallbauer, A. L. and Hiller, E. L	Railways, conductor supports and insulators	June 9, 1891
453,861	Halpine, N. J	Ships, submarine and torpedo	May 26, 1891
453,002	Hamilton, J. E	Harps and hangers	Jan. 13, 1891
444,433	Hammer, E. G	Clocks, electric	May 26, 1891
452,785	Hamrick, H. M	Telephones, systems, toll	Mar. 17, 1891
448,338	Hand, G. D. and Sells, O. P	Cut-outs, mechanical	Mar. 31, 1891
449,411	Hannah, G	Alarms	Dec. 23, 1890
443,278	Hanson, E. H	Stereotype plate holders	May 12, 1891
452,303	Hanson, W	Batteries, galvanic	Nov. 25, 1890
441,158	Harbeck, W. H	Photography, combined apparatus	Sept. 30, 1890
437,358	Harding, C. K	Railways, systems, closed conduit	May 5, 1891
451,637	Harding, C. K	do	Nov. 11, 1890
440,590	Hardy, F. D	Regulators	Mar. 3, 1891
447,321	Hargrave, T. C	Printing, matrix-making	Mar. 3, 1891
447,449	Hargrave, T. C	do	June 2, 1891
453,476	Harness, C. B	Electrodes	Nov. 25, 1890
441,487	Harrington, W. E	Magneto-electric	Aug. 12, 1890
434,109	Harris, A	Vending apparatus	June 30, 1891
455,100	Harris, A	Coin controlled apparatus, exhibitors, surface	Feb. 10, 1891
446,229	Harris, L. S	Regulators	Oct. 7, 1890
437,926	Harris, T	Galvanometers	Mar. 10, 1891
448,031	Harrison, E. L	Railway signals, block systems	Mar. 3, 1891
447,728	Hart, G. W	Cut-outs, mechanical	July 15, 1890
443,992	Hart, W. H	Conductors, underground	June 2, 1891
455,016	Harte, W. F. and Gerold, C. A	Annunciators	Sept. 2, 1890
446,917	Harvey, E. T	Railway signals	Sept. 2, 1890
453,367	Haskins, C. C	Motors	June 2, 1891
432,040	Haslam, J. P	Cordage, warping	July 15, 1890
453,355	Haswell, A. E. and A. G	Electro-deposition	June 2, 1891
435,893	Hatch, A. A	Telephones, calls	Sept. 2, 1890
435,894	Hatch, A. A	do	Sept. 2, 1890
441,413	Hatch, G. E	Batteries, secondary	Nov. 25, 1890
433,983	Hatch, D. P. and Guion, P. M	Ore and coal washers	Aug. 12, 1890
434,596	Hathaway, P	Telegraphy, circuit closers	Aug. 19, 1890
454,598	Hathaway, P	Batteries, galvanic	June 23, 1891
436,354	Hayden, M. M	Igniting devices, manual	Sept. 16, 1890
441,066	Hayes, H. V	Cut-outs, thermal	Nov. 18, 1890
445,176	Hayes, J. A	Lights, arc, positive feed, gear-clutch	Jan. 27, 1891
437,901	Hazeltine, C. W	Lights, arc, special features	Oct. 7, 1890
435,223	Heisler, C	Lights, sockets and keys	Aug. 26, 1890
448,920	Heller, F. G. A	Lights, filaments and carbons	Mar. 24, 1891
439,151	Helleesen, W. L. F	Batteries, galvanic	Oct. 28, 1890
432,237	Henderson, J. W	Electric locomotives	July 15, 1890
442,580	Henderson, W. B	Lights, arc, gravity feed, gear-clutch	Dec. 9, 1890
432,615	Henning, B. F	Railways, inclined planes	July 22, 1890
441,488	Hensley, W. S. and Grindley, W. H	Pyrometers	Nov. 25, 1890
443,237	Heppell, R. W	Painting machines	Dec. 23, 1890
454,475	Herring, C	Regulators	June 23, 1891
454,476	Herring, C	do	June 23, 1891
435,695	Herrick, A. B	Galvanometers	Sept. 2, 1890
454,270	Herrick, A. B	do	June 16, 1891
435,093	Herrick, C. H	Cut-outs, mechanical	Aug. 26, 1890

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435,931	Herrick, C. H.	Lights, sockets and keys	Sept. 9, 1890
440,845	Herrick, C. H.	Cut-outs, mechanical	Nov. 18, 1890
454,650	Herzberg, I. and A.	Lighting, systems	June 23, 1891
481,973	Herty, J. T.	Railways, conductor supports and insulators	July 8, 1890
481,810	Hess, E. C.	Telephones, supports	July 8, 1890
435,421	Hewett, E. M. G.	Batteries, galvanic	Sept. 2, 1890
451,870	Hewett, E. M. G.	Motors	May 5, 1891
443,632	Heymann, E. and F. W.	Lights, arc, gravity feed, clutch	Dec. 30, 1890
443,633	Heymann, E. and F. W.	do	Dec. 30, 1890
453,863	Hibbard, A. S.	Telephones, switch-boards	June 9, 1891
434,444	Hicks, T. H.	Batteries, secondary	Aug. 19, 1890
450,153	Hickley, A. S.	Railways, systems, overhead, trolleys	Apr. 14, 1891
11,108	Higham, D.	Regulators	Aug. 26, 1890
432,310	Higham, D.	Conductors	July 15, 1890
437,116	Hinshay, J. J.	Connectors	Sept. 23, 1890
450,460	Hines, D.	Railways, track cleaners, wheel fenders	Apr. 14, 1891
448,798	Hirlimann, C. J.	Batteries, galvanic	Mar. 24, 1891
435,660	Hobby, V. M.	Lights, filaments and carbons	Sept. 2, 1890
437,359	Hochhausen, W.	Cut-outs, mechanical	Sept. 30, 1890
437,360	Hochhausen, W.	Magneto-electric	Sept. 30, 1890
447,826	Hochhausen, W.	Cut-outs, electro-magnetic	Mar. 10, 1891
447,827	Hochhausen, W.	Motors	Mar. 10, 1891
452,583	Hochhausen, W.	Lights, arc, gravity feed, clutch	June 2, 1891
442,048	Hodges, N. D. C.	Lightning rods	Dec. 16, 1890
445,751	Hofiman, J. W.	Connectors	Feb. 3, 1891
445,752	Hoffman, J. W.	Cut-outs, mechanical	Feb. 3, 1891
432,618	Holcombe, A. G.	Telegraphy, fire	July 22, 1890
432,619	Holcombe, A. G.	do	July 22, 1890
435,629	Holcombe, A. G.	Conductors	Sept. 2, 1890
444,067	Holcombe, A. G.	Magneto-electric	Jan. 6, 1891
451,601	Holland, J.	Railways, systems, closed conduit	May 5, 1891
438,236	Hollar, W. H. and Holmes, F. S.	Magnetic locks and bolts	Oct. 14, 1890
439,594	Hollingshead, W. B.	Batteries, secondary	Oct. 28, 1890
434,869	Hollingshead, W. B.	do	Aug. 19, 1890
436,602	Hollingshead, W. B.	do	Sept. 16, 1890
445,448	Holmes, J. H.	Regulators	Jan. 27, 1891
443,282	Holmes, H. E. and Grosvenor, C. F.	Applications, general	Dec. 23, 1890
443,283	Holmes, H. E. and Grosvenor, C. F.	Applications, tools and machines	Dec. 23, 1890
452,571	Holson, A. B.	Applications, general	May 19, 1891
441,304	Holtzer, C. W.	Annunciators	Nov. 25, 1890
436,238	Hoop, G. D.	Telegraphy, lightning arresters	Sept. 9, 1890
444,552	Hopkinson, J.	Galvanometers	Jan. 13, 1891
444,553	Hopkinson, J.	Systems of distribution	Jan. 13, 1891
436,874	Hoppes, J. J.	Railways, systems, overhead, trolleys	Sept. 23, 1890
442,623	Hopson, R. C.	Railways, systems, overhead	Dec. 16, 1890
445,113	Hörenz, F.	Time checks	Jan. 20, 1891
444,245	Hormel, A.	Annunciators	Jan. 6, 1891
448,040	Hornberger, W.	Magneto-electric	Mar. 10, 1891
435,896	Howell, J. W.	Galvanometers	Sept. 2, 1890
440,106	Hoyt, L. S.	Railways, systems, overhead, trolleys	Nov. 4, 1890
441,843	Hoy, A. H.	Batteries, galvanic	Dec. 2, 1890
437,203	Hunter, G. E. and Corthell, F. H.	Clocks, electric	Sept. 30, 1890
437,204	Hunter, G. E. and Corthell, F. H.	do	Sept. 30, 1890
437,205	Hunter, G. E. and Corthell, F. H.	do	Sept. 30, 1890
437,206	Hunter, G. E. and Corthell, F. H.	do	Sept. 30, 1890
431,519	Hunter, R. M.	Railroads, systems, conduit	July 1, 1890
431,720	Hunter, R. M.	Electric locomotives	July 8, 1890
431,977	Hunter, R. M.	Railways, systems, circuits, multiple arc	July 8, 1890
432,049	Hunter, R. M.	do	July 15, 1890
432,136	Hunter, R. M.	Electric locomotives	July 15, 1890
432,623	Hunter, R. M.	do	July 22, 1890
432,752	Hunter, R. M.	Railways, systems, overhead, trolleys	July 22, 1890
432,753	Hunter, R. M.	Electric locomotives	July 22, 1890
433,170	Hunter, R. M.	do	July 29, 1890
433,407	Hunter, R. M.	Railways, systems, overhead, trolleys	July 29, 1890
433,408	Hunter, R. M.	Electric locomotives	July 29, 1890
434,030	Hunter, R. M.	Railways, systems, conduit	Aug. 12, 1890
434,147	Hunter, R. M.	Electric locomotives	Aug. 12, 1890
434,148	Hunter, R. M.	do	Aug. 12, 1890
434,275	Hunter, R. M.	Railways, systems, circuits, multiple arc	Aug. 12, 1890
434,276	Hunter, R. M.	Railways, systems, overhead, trolleys	Aug. 12, 1890
434,389	Hunter, R. M.	Railways, systems, conduit	Aug. 12, 1890
434,390	Hunter, R. M.	do	Aug. 12, 1890
434,391	Hunter, R. M.	Electric locomotives	Aug. 12, 1890
434,871	Hunter, R. M.	Railways, systems, telpher	Aug. 19, 1890
435,662	Hunter, R. M.	Railways, systems, conduit	Sept. 2, 1890
435,879	Hunter, R. M.	do	Sept. 2, 1890

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437,158	Hunter, R. M.	Electric locomotives	Sept. 23, 1890
438,847	Hunter, R. M.	Railways, systems, overhead	Oct. 21, 1890
439,069	Hunter, R. M.	Railways, systems, conduit	Oct. 21, 1890
439,070	Hunter, R. M.	Railways, systems, circuits, multiple arc	Oct. 21, 1890
439,597	Hunter, R. M.	Railways, systems, conduit	Oct. 28, 1890
439,662	Hunter, R. M.	Railways, systems, overhead	Nov. 4, 1890
440,595	Hunter, R. M.	do	Nov. 11, 1890
440,596	Hunter, R. M.	Railways, systems, conduit	Nov. 11, 1890
440,597	Hunter, R. M.	do	Nov. 11, 1890
441,305	Hunter, R. M.	Railways, systems, battery	Nov. 25, 1890
441,565	Hunter, R. M.	Electric locomotives	Nov. 25, 1890
443,451	Hunter, R. M.	Railways, systems, conduit	Dec. 23, 1890
443,452	Hunter, R. M.	Railways, systems, overhead, trolleys	Dec. 23, 1890
443,661	Hunter, R. M.	Car brakes	Dec. 30, 1890
443,677	Hunter, R. M.	Electric locomotives	Dec. 30, 1890
444,397	Hunter, R. M.	Railways, systems, overhead, trolleys	Jau. 6, 1891
444,566	Hunter, R. M.	do	Jan. 13, 1891
445,144	Hunter, R. M.	Electric locomotives	Jan. 20, 1891
445,409	Hunter, R. M.	Railways, systems, overhead	Jan. 27, 1891
445,674	Hunter, R. M.	Railways, systems, conduit	Feb. 3, 1891
445,952	Hunter, R. M.	Railways, systems, overhead	Feb. 3, 1891
446,817	Hunter, R. M.	Railways, systems, battery	Feb. 17, 1891
446,833	Hunter, R. M.	Railways, systems, overhead	Feb. 17, 1891
446,834	Hunter, R. M.	Railways, systems, circuits, multiple arc	Feb. 17, 1891
447,283	Hunter, R. M.	Railways, systems, overhead	Feb. 24, 1891
448,618	Hunter, R. M.	Railways, systems, overhead, trolleys	Mar. 17, 1891
448,653	Hunter, R. M.	Railways, systems, circuits, series	Mar. 24, 1891
448,782	Hunter, R. M.	Cut-outs, thermal	Mar. 24, 1891
448,523	Hunter, R. M.	Railways, systems, circuits, multiple arc	Mar. 17, 1891
449,797	Hunter, R. M.	Railways, systems, conduit	Apr. 7, 1891
450,074	Hunter, R. M.	Railways, systems, overhead	Apr. 7, 1891
450,586	Hunter, R. M.	do	Apr. 14, 1891
451,154	Hunter, R. M.	Railways, systems, circuits, multiple arc	Apr. 28, 1891
451,155	Hunter, R. M.	Electric locomotives	Apr. 28, 1891
451,402	Hunter, R. M.	Railways, systems, overhead, trolleys	Apr. 28, 1891
451,692	Hunter, R. M.	Railways, systems, conduit	May 5, 1891
452,920	Hunter, R. M.	do	May 26, 1891
454,437	Hunter, R. M.	Railways, systems, overhead, trolleys	June 16, 1891
435,346	Hubbell, C. J.	Batteries, galvanic	Aug. 26, 1890
437,397	Hudie, R.	Telegraphy, lightning arresters	Sept. 30, 1890
437,927	Hughes, F. C.	Telephones, supports	Oct. 7, 1890
445,142	Hughes, J. S.	Railways, conductor supports and insulators	Jan. 20, 1891
449,254	Humans, W.	Telephones, magnetic	Mar. 31, 1891
453,242	Humans, W.	Magneto-electric, hand machines	June 2, 1891
432,707	Humbert, II	Motors	July 22, 1890
442,808	Hummel, A. G. and Graham, F. A.	Telegraphy, circuits and systems	Dec. 16, 1890
451,933	Hunt, A. M.	Connectors	May 12, 1891
442,287	Hunt, G. W. and Rieh, A. E.	Lights, sockets and keys	Dee. 9, 1890
434,509	Huntington, C. W.	Cut-outs, thermal	Aug. 19, 1890
435,424	Huntington, C. W.	Cut-outs, mechanical	Sept. 2, 1890
439,516	Hussey, C. A.	Batteries, galvanic	Oct. 28, 1890
446,684	Hussey, C. A.	Musie, electric actions	Feb. 17, 1891
451,559	Hyer, W. E.	Motors	May 5, 1891
441,665	Hyer, W. E.	Regulators	Dec. 2, 1890
453,326	Ide, A. L.	Railways, conductor supports and insulators	June 2, 1891
434,063	Illingworth, J. and Baker, A. M.	Street cars, brakes	Aug. 12, 1890
453,019	Ingraham, A. A.	Railways, systems, battery	June 30, 1891
451,125	Irving, F. K.	Meters	Apr. 28, 1891
486,001	Irving, F. K. and Hill, F. M.	Batteries, galvanic	Sept. 9, 1890
448,044	Iske, A.	Telegraphy, circuit closers	Mar. 10, 1891
434,872	Iske, A. and A.	Fire alarms	Aug. 19, 1890
442,267	Ives, E. B.	Telegraphy, multiplex	Dee. 9, 1890
431,978	Jaekson, A. W.	Medical and surgical, body-wear	July 8, 1890
453,190	Jaekson, S. D. L.	Advertising, automatic devices	June 2, 1891
451,157	Jackson, U. S.	Railway signals	Apr. 28, 1891
450,489	Jackson, W. E., jr.	Railways, systems, overhead, trolleys	Apr. 14, 1891
431,979	Jacobs, II. E.	Telegraphy, fire, alarms and extinguishers	July 8, 1890
435,097	Jacobs, S. J.	Railway signals	Aug. 26, 1890
431,721	Jacobs, S. J.	Lights, incandescent, special features	July 8, 1890
449,679	Jacques, W. W.	Telephones, systems	Apr. 7, 1891
453,483	Jacques, W. W.	do	June 2, 1891
434,186	Jacques, W. E. and Emmott, G. R.	Cut-outs, thermal	Aug. 12, 1890
436,895	Jeacon, J. A.	Electro-deposition	Sept. 23, 1890
433,682	Jenks, W. J.	Telegraphy, lightning arresters	Aug. 5, 1890
437,362	Jenks, W. J.	do	Sept. 30, 1890
432,670	Jennings, B.	Railways, systems, conduit	July 22, 1890
432,944	Jennings, B.	do	July 22, 1890

NO.	NAME.	CLASS.	DATE.
451,326	Jennings, B	Railways, systems, conduit	Apr. 28, 1891
452,523	Jennings, B	Railways, conductor supports and insulators	May 19, 1891
452,645	Jennings, B	do	May 19, 1891
452,574	Jenney, C. D.	Rheostats	May 19, 1891
442,053	Jewell, R.	Measuring vessels	Dec. 2, 1890
444,358	Jewell, R.	Registers	Jan. 6, 1891
453,484	Jewell, R.	Measuring pumps	June 2, 1891
436,979	Jiran, C. G.	Bells	Sept. 23, 1890
441,165	Johns, H. W.	Boiler coverings	Nov. 25, 1890
433,471	Johns, H. W.	Coverings	Aug. 5, 1890
433,472	Johns, H. W.	do	Aug. 5, 1890
433,473	Johns, H. W.	do	Aug. 5, 1890
431,811	Johnson, E. H.	Gearing	July 8, 1890
431,812	Johnson, E. H.	Regulators	July 8, 1890
443,526	Johnson, E. H.	Telephones, electric	Dec. 30, 1890
443,606	Johnson, E. H.	Lighting, systems	Dec. 30, 1890
435,897	Johnson, E. H.	Cut-outs, electro-magnetic	Sept. 2, 1890
435,898	Johnson, E. H.	Valve-controllers	Sept. 2, 1890
435,899	Johnson, E. H.	Regulators	Sept. 2, 1890
448,431	Johnson, E. H.	Cut-outs, mechanical	Mar. 17, 1891
449,044	Johnson, E. H.	Lighting, systems	Mar. 24, 1891
450,742	Johnson, E. H.	Electric locomotives	Apr. 21, 1891
450,744	Johnson, E. H.	Gearing	Apr. 21, 1891
454,275	Johnsou, E. H.	Conductors, underground	June 16, 1891
435,098	Johnston, A. L.	Cut-outs, mechanical	Aug. 26, 1890
442,187	Johnston, J. G.	Batteries, secondary	Dec. 9, 1890
450,292	Johnston, W. C., jr	Telegraphy, circuit closers	Apr. 14, 1891
450,159	Jones, A. W.	Cut-outs, thermal	Apr. 14, 1891
451,732	Jones, B. J.	Lighting, systems, car	May 5, 1891
436,857	Jones, F. R.	Connectors	Sept. 23, 1890
433,082	Jones, F. W.	Telegraphy, circuits and systems	July 29, 1890
441,847	Jones, F. W.	do	Dec. 2, 1890
443,527	Jones, F. W.	Lighting, systems	Dec. 30, 1890
441,764	Jones, H.	Railways, systems, conduit	Dec. 2, 1890
442,081	Jones, J.	Railways, systems, overhead	Dec. 16, 1890
453,710	Jones, J.	do	June 9, 1891
452,186	Jones, R. M.	Railways, systems, overhead, trolleys	May 12, 1891
445,954	Jordan, L. F.	Lighting, systems	Feb. 3, 1891
437,602	Kaiser, F. P.	Telephones, details	Sept. 30, 1890
447,409	Kaiser, J. H. and Ledwith, A. B.	Magnetic locks and bolts	Mar. 3, 1891
437,363	Kalbach, H. M.	Cut-outs, thermal	Sept. 30, 1890
432,050	Kammeyer, C. E.	Inductoriums, transformers, stationary	July 15, 1890
440,164	Keeley, D. H.	Telegraphy, circuits and systems	Nov. 11, 1890
440,165	Keeley, D. H.	Telegraphy, multiplex	Nov. 11, 1890
433,409	Keithley, H. R.	Railways, systems, conduit	July 29, 1890
437,859	Kelley, D. and Parkhurst, M. C.	Telegraphy, dial	Oct. 7, 1890
443,772	Kells, C. E., jr	Applications, tools and machines	Dec. 30, 1890
453,260	Kells, C. E., jr	Dental instruments	June 2, 1891
452,306	Keen, W. M. B.	Lights, sockets and keys	May 12, 1891
445,374	Keen, W. M. B. and Haarmann, W. F.	Lights, filaments and carbons	Jan. 27, 1891
452,305	Keen, W. M. B. and Haarmann, W. F.	Lights, sockets and keys	May 12, 1891
441,959	Kennedy, C. W.	Batteries, secondary	Dec. 2, 1890
441,958	Kennedy, C. W. and Groswith, H.	Batteries, galvanic	Dec. 2, 1890
447,569	Kennedy, R.	Induction coils	Mar. 3, 1891
439,011	Kent, J.	Lights, arc, positive feed, gear-clutch	Oct. 21, 1890
438,814	Kerstein, M.	Lighting, systems	Oct. 21, 1890
450,626	Kerstein, M.	do	Apr. 21, 1891
440,042	Kessler, W.	Insulators	Nov. 4, 1890
445,146	Keyes, B. B.	Cut-outs, mechanical	Jan. 20, 1891
455,237	Keyes, B. B.	Lights, sockets and keys	June 30, 1891
432,490	Khotinsky, A.	Telegraphy, printing	July 15, 1890
443,646	Kilbourn, W. H.	Applications, tools and machines	Dec. 30, 1890
443,097	Kim, G. M.	Drop lights and hangers	Dec. 23, 1890
431,062	Kimball, J. L. and Wirt, H. C.	Cut-outs, thermal	July 1, 1890
448,751	Kinsman, F. E.	Railway signals, sectional rail	Mar. 24, 1891
452,026	Kintner, C. J.	Telegraphy, transmitters	May 12, 1891
452,705	Kintner, C. J.	Motors	May 26, 1891
447,832	Kintz, J.	Lights, incandescent, special features	Mar. 10, 1891
447,074	Kirnan, W. H.	Telegraphy, fire	Feb. 24, 1891
450,239	Kirnan, W. H.	do	Apr. 14, 1891
439,015	Kirwan, G. H.	Station indicators	Oct. 21, 1890
443,454	Kitsee, I.	Batteries, secondary	Dec. 23, 1890
443,455	Kitsee, I.	do	Dec. 23, 1890
443,456	Kitsee, I.	do	Dec. 23, 1890
443,457	Kitsee, I.	do	Dec. 23, 1890
434,149	Klein, C. J.	Lights, incandescent, special features	Aug. 12, 1890
452,506	Klnmpp, J. F., jr	Telegraphy, fire, alarms and extinguishers	May 19, 1891

No.	NAME.	CLASS.	DATE.
447,833	Knight, C. M. and Hawken, T	Connectors	Mar. 10, 1891
432,142	Knight, W. H	Electric locomotives	July 15, 1890
447,332	Knight, W. H	Railways, systems, conduit	Mar. 3, 1891
451,491	Knight, W. H	Electric locomotives	May 5, 1891
438,003	Knudson, A. A.	Conductors	Oct. 7, 1890
439,959	Kohrn, W. A. J.	Telegraphy, keys	Nov. 4, 1890
432,672	Kookogey, W. P.	Batteries, secondary	July 22, 1890
433,174	Kookogey, W. P.	do	July 29, 1890
434,133	Kookogey, W. P.	Heaters	Aug. 12, 1890
432,053	Korst, P. H.	Meters	July 15, 1890
452,796	Kress, G. R.	Lightning rods	May 26, 1891
451,696	Kuehnle, J.	Railways, systems, overhead	May 5, 1891
452,576	Kuehnle, J.	do	May 19, 1891
437,307	Kunhardt, D.	Telegraphy, automatic	Sept. 30, 1890
448,351	Kurmayer, K.	Lights, arc, positive feed	Mar. 17, 1891
451,872	La Boiteaux, F. M.	Motors	May 5, 1891
451,873	La Boiteaux, F. M.	Pneumatic fans	May 5, 1891
449,288	Lahmeyer, W.	Regulators	Mar. 31, 1891
437,848	Lampert, H., jr	Batteries, secondary	Oct. 7, 1890
437,654	Lander, G. and Simpson, J. H.	Heaters	Sept. 30, 1890
434,154	Lange, P.	Galvanometers	Aug. 12, 1890
450,628	Lange, P.	Lights, sockets and keys	Apr. 21, 1891
434,151	Lange, P. and Shallenberger, O. B.	Cut-outs, mechanical	Aug. 12, 1890
434,152	Lange, P. and Shallenberger, O. B.	do	Aug. 12, 1890
434,153	Lange, P. and Shallenberger, O. B.	Lights, sockets and keys	Aug. 12, 1890
439,017	Langdon-Davies, C.	Telegraphy, reed	Oct. 21, 1890
453,261	Langdon-Davies, C.	do	June 2, 1891
444,706	Lane, T. W.	Igniting devices, automatic	Jan. 13, 1891
444,896	Lane, T. W.	do	Jan. 20, 1891
443,598	Langstaffe, J.	Incrustation	Dec. 30, 1890
451,941	La Point, T. T., Flanagan, J. H. and Thompson, C. A.	Drain tiles	May 12, 1891
454,522	Larkin, G. H. and Tomkins, J.	Railways, systems, overhead, trolleys	June 23, 1891
453,597	La Roche, F. A.	Lighting, systems	June 2, 1891
439,409	Lattig, J. W.	Railway signals	Oct. 28, 1890
446,527	Laurent-Cely, A. M. F. and Timmis, I. A.	Batteries, secondary	Feb. 17, 1891
444,780	Lawrence, G. R.	Telephones, calls	Jan. 13, 1891
454,873	Lawrence, W. H.	Lights, filaments and carbons	June 30, 1891
431,698	Leaks, S. F.	Railways, pneumatic dispatch tubes	July 8, 1890
431,699	Leaks, S. F.	do	July 8, 1890
431,700	Leaks, S. F.	do	July 8, 1890
431,701	Leaks, S. F.	do	July 8, 1890
431,776	Lean, G. R.	Lights, incandescent	July 8, 1890
444,567	Lean, G. R.	Lights, sockets and keys	Jan. 13, 1891
445,957	Lean, G. R.	Cut-outs, mechanical	Feb. 3, 1891
446,623	Lean, G. R.	do	Feb. 17, 1891
448,847	Leakin, J. H.	Batteries, galvanic	Mar. 24, 1891
449,266	Lean, G. R.	Lights, incandescent, special features	Mar. 31, 1891
432,883	Lebenberg, S.	Telephones, supports	July 22, 1890
451,942	Lechner, F. M.	Mining machines	May 12, 1891
447,134	Lee, H. and Lebrun, E.	Printing, matrix-making	Feb. 24, 1891
447,135	Lee, H.	do	Feb. 24, 1891
445,023	Lefebvre, E.	Clocks, electric	Jan. 20, 1891
432,884	Lehman, J. H.	Igniting devices, manual	July 22, 1890
444,707	Lehman, J. H.	Rheostats	Jan. 13, 1891
431,597	Lehy, G. B.	Alarms, burglar	July 8, 1890
431,598	Lehy, G. B.	Telegraphy, fire	July 8, 1890
432,630	Lemip, H.	Heaters	July 22, 1890
434,450	Lemp, H.	do	Aug. 13, 1890
440,640	Lemp, H.	do	Nov. 18, 1890
440,641	Lemp, H.	do	Nov. 18, 1890
440,759	Lemp, H.	Lights, filaments and carbons	Nov. 18, 1890
443,224	Lemp, H.	Heaters	Dec. 23, 1890
444,939	Lemp, H. and Schmidt, L. M.	Regulators, alternating	Jan. 20, 1891
446,974	Lemp, H. and Schmidt, L. M.	Heaters	Feb. 24, 1891
432,629	Lemp, H. and Tregoning, J.	do	July 22, 1890
454,485	Lemp, H. and Wightman, M. J.	Lights, arc, gravity feed, gear-clutch	June 23, 1891
454,625	Lenahan, F. P.	Railway signals, cab, sectional rail	June 23, 1891
445,319	Lenhart, P. F.	Metal founding, wheels	Jan. 27, 1891
454,746	Leonard, B. W.	Telegraphy, fire, automatic	June 23, 1891
435,700	Leonard, H. W.	Regulators	Sept. 2, 1890
450,103	Le Sueur, E. A.	Electrolysis	Apr. 7, 1891
450,104	Le Sueur, E. A.	do	Apr. 7, 1891
450,105	Le Sueur, E. A.	Batteries, galvanic	Apr. 7, 1891
437,905	Levi, M.	Automatic devices	Oct. 7, 1890
441,877	Lewis, F.	Lights, incandescent, special features	Dec. 2, 1890
437,210	Leber, L. H.	Electric locomotives	Sept. 30, 1890

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436,425	Libbey, H. W.	Railways, systems, overhead	Sept. 16, 1890
436,923	Libbey, H. W.	Railways, systems, conduit	Sept. 23, 1890
441,571	Libbey, H. W.	do	Nov. 25, 1890
441,572	Libbey, H. W.	do	Nov. 25, 1890
444,597	Lichtenstadt, D. and C.	Electrodes	Jan. 13, 1891
433,948	Lieb, C. A.	Connectors	Aug. 12, 1890
434,087	Lieb, C. A.	do	Aug. 12, 1890
435,503	Lieb, C. A.	Magneto-electric	Sept. 2, 1890
435,504	Lieb, C. A.	do	Sept. 2, 1890
435,505	Lieb, C. A.	Railways, conductor supports and insulators	Sept. 2, 1890
440,814	Lieb, C. A.	Railways, systems, overhead, trolleys	Nov. 18, 1890
441,216	Lieb, C. A.	Magneto-electric	Nov. 25, 1890
443,530	Lieb, C. A.	Lights, sockets, and keys	Dec. 30, 1890
444,447	Lieb, C. A.	Railways, systems, overhead, trolleys	Jan. 13, 1891
446,871	Lieb, C. A.	Connectors	Feb. 24, 1891
448,246	Lieb, C. A.	Railways, conductor supports and insulators	Mar. 17, 1891
449,125	Lieb, C. A.	Towers, telegraph poles	Mar. 31, 1891
450,163	Lieb, C. A.	Railways, conductor supports and insulators	Apr. 14, 1891
450,164	Lieb, C. A.	do	Apr. 14, 1891
450,242	Lieb, C. A.	do	Apr. 14, 1891
452,017	Lieb, C. A.	do	May 12, 1891
453,286	Lieb, C. A.	Towers, telegraph poles	June 2, 1891
454,486	Lieb, C. A.	Railways, conductor supports and insulators	June 23, 1891
454,487	Lieb, C. A.	do	June 23, 1891
454,488	Lieb, C. A.	Magneto-electric	June 23, 1891
450,294	Lieb, C. A. and Leavens, E.	Railways, conductor supports and insulators	Apr. 14, 1891
450,587	Lieb, C. A. and Leavens, E.	do	Apr. 14, 1891
437,469	Liebig, G. A. and Willms, C.	Batteries, galvanic	Sept. 30, 1890
450,630	Linville, S. R. and Hettmansperger, L. F.	Telegraphy, printing	Apr. 21, 1891
450,631	Linville, S. R.	do	Apr. 21, 1891
438,891	Linn, S. H.	Lights, incandescent, special features	Oct. 21, 1890
452,003	Lipe, C. E.	Electro-magnets	May 12, 1891
433,687	Little, E. W. and Robb, J. T.	Lights, incandescent, special features	Aug. 5, 1890
434,395	Little, R. H.	Vending apparatus	Aug. 12, 1890
437,835	Little, G. and G. J.	Motors	Oct. 7, 1890
451,407	Lloyd, H. H.	Batteries, secondary	Apr. 28, 1891
441,849	Locke, F. M. and Lapp, J.	Insulators	Dec. 2, 1890
442,126	Locke, S. D.	Recorders	Dec. 9, 1890
435,438	Lockwood, T. D.	Telephones, electric	Sept. 2, 1890
431,118	Loomis, O. P.	Cut-outs, mechanical	July 1, 1890
440,881	Loomis, T. F.	Railway signals	Nov. 18, 1890
437,126	Loth, C. E.	Conductors, underground	Sept. 23, 1890
442,127	Lounsbury, J. A.	Lights, arc, special features	Dec. 9, 1890
445,564	Loy, I. W. and O'Toole, R.	Railway signals	Feb. 3, 1891
453,447	Luby, W. A.	Railway signals, sectional rail	June 2, 1891
432,949	Lucas, A. H.	Lights, arc, special features	July 22, 1890
447,885	Luce, C. J.	Railways, systems, overhead	Mar. 10, 1891
450,245	Ludlow, S. W.	Telegraphy, fire, alarms and extinguishers	Apr. 14, 1891
450,466	Ludlow, S. W.	Alarms	Apr. 14, 1891
448,153	Ludwig, J. C.	Telephones, relays and repeaters	Mar. 10, 1891
437,704	Lundell, R.	Regulators	Oct. 7, 1890
442,446	Luscomb, H. H.	Railways, conductor supports and insulators	Dec. 9, 1890
435,440	Luthe, J. W. and Jeavons, A. E.	Annunciators	Sept. 2, 1890
443,834	Luthe, J. W. and Jeavons, A. E.	do	Dec. 30, 1890
443,580	Lyke, N.	Medical and surgical, baths	Dec. 30, 1890
432,416	Lynch, J.	Railways, systems, conduits	July 15, 1890
441,248	Lynch, T. J.	Drop lights and hangers	Nov. 25, 1890
449,685	Lyon, J. B.	Telephones, switch-boards	Apr. 7, 1891
452,921	Lyon, J. B.	do	May 26, 1891
438,631	MacDonald, A. J.	Telephones, electric	Oct. 21, 1890
438,632	MacDonald, A. J.	do	Oct. 21, 1890
440,173	MacDonald, A. J.	Alloys	Nov. 11, 1890
431,271	MacFarlane, J.	Alarms	July 1, 1890
446,985	Mackloskie, C. H. and Baker, W. E.	Railways, conductor supports and insulators	Feb. 24, 1891
454,057	Macmillan, W.	Batteries, galvanic	June 16, 1891
451,211	Macrae, R.	Railways, systems, overhead	Apr. 28, 1891
453,237	Macrae, R.	Motors	June 2, 1891
446,873	Madden, A. F.	Miscellaneous compositions	Feb. 24, 1891
447,469	Main, W.	Magneto-electric	Mar. 3, 1891
434,396	Mallonee, J. D.	Printing, hand stamps	Aug. 12, 1890
441,430	Mallonee, J. D.	do	Nov. 25, 1890
441,250	Manaydier, J. E.	Railways, systems, telpher, solenoid	Nov. 25, 1890
443,944	Manning, J. A.	Lights, arc, special features	Dec. 30, 1890
432,673	Mansfield, F.	Railways, systems, closed conduit	July 22, 1890
432,674	Mansfield, F.	do	July 22, 1890
432,675	Mansfield, F.	Locomotion	July 22, 1890
441,771	Mansfield, F.	Electric locomotives	Dec. 2, 1890

No.	NAME.	CLASS.	DATE.
442,232	Mansfield, F	Railways, conductor supports and insulators	Dec. 9, 1890
450,172	Mansfield, F	Railways, systems, closed conduit	Apr. 14, 1891
450,173	Mansfield, F	do	Apr. 14, 1891
455,223	Mansfield, F. and Wason, C. W	Telegraphy, lightning arresters	June 30, 1891
433,738	Maquay, S. W	Batteries, galvanic	Aug. 5, 1890
438,167	Marcher, T	Cut-outs, mechanical	Oct. 14, 1890
450,358	Marcus, W. N	Telephones, details	Apr. 14, 1891
450,359	Marcus, W. N	Telephones, supports	Apr. 14, 1891
438,894	Marcy, H. W	Railways, systems, overhead	Oct. 21, 1890
440,431	Mareš, E	Meters	Nov. 11, 1890
441,312	Marks, W. B., Lauer, J. G. and Ralston, R. R.	Railways, conductor supports and insulators	Nov. 25, 1890
450,589	Marsh, J. W	Conductors	Apr. 14, 1891
442,270	Marshall, N	Gas fittings	Dec. 9, 1890
442,588	Marshall, N	Cut-outs, mechanical	Dec. 9, 1890
446,142	Martin, G. W	Lights, incandescent, special features	Feb. 10, 1891
454,973	Martin, M	Telegraphy, fire, alarms and extinguishers	June 30, 1891
454,974	Martin, M	Telegraphy, fire	June 30, 1891
449,759	Martindale, W. B	Printing, hand stamps	Apr. 7, 1891
449,081	Martindale, W. B. and Malmborg, E. R.	do	Mar. 24, 1891
440,175	Marx, F	Batteries, secondary	Nov. 11, 1890
431,170	Marvin, H. N	Transmission of power	July 1, 1890
439,324	Mason, E. J	Batteries, secondary	Oct. 28, 1890
444,005	Mason, D	Railways, conductor supports and insulators	Jan. 6, 1891
444,006	Mason, D	do	Jau. 6, 1891
432,279	Massey, G. B	Rheostats	July 15, 1890
446,108	Mather, R. H	Lights, arc, positive feed	Feb. 10, 1891
446,109	Mather, R. H	do	Feb. 10, 1891
439,023	Matson, D. B	Drop lights and hangers	Oct. 21, 1890
452,799	Matteson, J. A	Drop lights, spring drum	May 26, 1891
450,966	Matthews, F. A	Watch stops	Apr. 21, 1891
449,289	Maxstadt, F. W	Cut-outs, thermal	Mar. 31, 1891
434,639	Maxwell, D	Bridges, towers	Aug. 19, 1890
437,160	Mayer, M	Motors	Sept. 23, 1890
443,291	Mayrhofer, C	Clocks, electric	Dec. 23, 1890
454,443	McAuley, J. E	Lights, arc, gravity feed, clutch	June 10, 1891
447,894	McCann, W. R. and Creider, S. S	Telegraphy, fire	Mar. 10, 1891
449,943	McCarthy, L	Railways, conductor supports and insulators	Apr. 7, 1891
444,539	McCarthy, L. A	Electric locomotives	Jan. 13, 1891
431,671	McCartney, J. H	Railway signals	July 3, 1890
437,311	McCluer, C. E	Conductors, anti-inductive	Sept. 30, 1890
431,987	McCoy, A. T	Telegraphy, printing	July 8, 1890
432,547	McCoy, J. A	Telephones, systems	July 22, 1890
454,060	McCracken, E. D	Conductors	June 16, 1891
451,948	McCullough, G. C	Batteries, galvanic	May 12, 1891
438,818	McDonough, J. W	Telephones, electric	Oct. 21, 1890
446,188	McDonough, J. W	Telephones, details	Feb. 10, 1891
431,213	McDougall, W. M	Electric locomotives	July 1, 1890
438,084	McElroy, D. S	Railway signals	Oct. 7, 1890
437,226	McEntee, J. A	Advertising, signs	Sept. 30, 1890
439,974	McGahan, F. L	Magneto-electric	Nov. 4, 1890
455,109	McGahan, F. L	Motors	June 30, 1891
455,110	McGahan, F. L	do	June 30, 1891
448,540	McGenniss, D	Metal, curved surfaces	Mar. 17, 1891
439,602	McGregor, J. A. K	Cut-outs, mechanical	Oct. 28, 1890
432,202	McLaughlin, J. F	Batteries, secondary	July 15, 1890
432,204	McLaughlin, J. F	Railways, systems, conduit	July 15, 1890
432,205	McLaughlin, J. F	Heaters	July 15, 1890
432,206	McLaughlin, J. F	Magneto-electric	July 15, 1890
432,207	McLaughlin, J. F	Cut-outs, mechanical	July 15, 1890
432,208	McLaughlin, J. F	Electric locomotives	July 15, 1890
432,209	McLaughlin, J. F	Applications, tools and machines	July 15, 1890
433,359	McLaughlin, J. F	Cut-outs, mechanical	July 29, 1890
433,360	McLaughlin, J. F	Railways, systems, battery	July 29, 1890
453,430	McLaughlin, J. F	Type-writing	June 2, 1891
438,357	McMahan, J. M	Separators	Oct. 14, 1890
440,361	McMannan, J. A	Cut-outs, thermal	Nov. 11, 1890
440,898	McMannan, J. A	Telephones, calls	Nov. 18, 1890
443,145	McQuarrie, J. L	Telephones, systems	Dec. 23, 1890
447,338	Medbery, H. J	Railways, systems, conduit	Mar. 3, 1891
439,301	Mehren, J. F	Batteries, secondary	Oct. 28, 1890
434,671	Mellett, L	Applications, tools and machines	Aug. 19, 1890
438,698	Menuez, A. E	Insulating materials	Oct. 21, 1890
447,194	Mercadier, E. J. P	Telephones, magnetic	Feb. 24, 1891
454,138	Mercadier, E. J. P	Telephones, supports	June 16, 1891
442,383	Merrifield, P. V	Telegraphy, fire	Dec. 9, 1890
434,640	Mestern, H	Batteries, thermal	Aug. 19, 1890
442,705	Meston, A. W	Meters	Dec. 16, 1890

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NO.	NAME.	CLASS.	DATE.
449,375	Meyer, J. and Binder, C.	Telegraph poles	Mar. 31, 1891
447,734	Meyrowitz, E. B. and Buchhop, F.	Motors	Mar. 3, 1891
452,276	Milier, H. W.	Meters	May 12, 1891
448,980	Miller, I. N.	Cut-outs, thermal	Mar. 24, 1891
447,195	Miller, J. E. A.	Annunciators	Feb. 24, 1891
454,177	Miller, J. J.	Railways, systems, conduit	June 16, 1891
454,178	Miller, J. J.	do	June 16, 1891
432,063	Miller, W. C.	Bailways, systems, overhead, trolleys	July 15, 1890
431,777	Miller, J. D. and Dofflemyre, J. A.	Applications, general	July 8, 1890
451,882	Milliken, F.	Towers, telegraph poles	May 5, 1891
453,982	Milliken, G. F.	Telegraphy, fire	June 9, 1891
437,930	Miner, W. M.	Telegraphy, multiplex	Oct. 7, 1890
443,195	Mingle, G. W.	Cut-outs, electro-magnetic	Dec. 23, 1890
442,071	Mino, J.	Lamps and gas fittings, guards	Dec. 2, 1890
438,934	Miro, F.	Cut-outs, mechanical	Oct. 21, 1890
449,226	Mitchell, A. W.	Railways, systems, overhead, trolleys	Mar. 31, 1891
449,490	Mitchell, A. W.	do	Mar. 31, 1891
452,611	Mitchell, E. W.	Railways, systems, closed conduit	May 19, 1891
452,546	Mitchell, J. M.	Magneto-electric	May 19, 1891
453,888	Mitchell, W.	Cut-outs, mechanical	June 9, 1891
449,610	Moffatt, R. R.	Separators	Mar. 31, 1891
434,024	Monrath, G. and Gihbons, W. M.	Electrodes	Aug. 12, 1890
433,872	Moore, C. W.	Indicators	Aug. 5, 1890
454,570	Moore, G. R.	Figure wheeled toys	June 23, 1891
442,685	Moore, J. B.	Lights, incandescent, special features	Dec. 16, 1890
436,717	Moore, J. T.	Telephones, supports	Sept. 16, 1890
437,501	Morday, W. M.	Magneto-electric	Sept. 30, 1890
442,816	Morgan, R. A., jr.	Cut-outs, mechanical	Dec. 16, 1890
432,834	Morris, H. G.	Batteries, secondary	July 22, 1890
439,417	Morrison, W.	Regulators	Oct. 28, 1890
430,416	Morrison, W. and Schmidt, L.	Batteries, secondary	Oct. 28, 1890
436,371	Morse, P. C. and Winton, H. D.	Railway signals	Sept. 16, 1890
449,227	Morse, S. F. B.	Railways, systems, circuits, multiple arc	Mar. 31, 1891
437,445	Morton, T. M.	Conductors, underground	Sept. 30, 1890
437,502	Mosher, J. A.	Lights, arc, positive feed, gear-clutch	Sept. 30, 1890
446,459	Mosher, J. A.	Lights, arc, gravity feed, clutch	Feb. 17, 1891
444,452	Mott, S. D.	Indicators	Jan. 13, 1891
444,453	Mott, S. D.	do	Jan. 13, 1891
444,454	Mott, S. D.	do	Jan. 13, 1891
433,903	Mower, S. E.	Electric locomotives	Aug. 5, 1890
440,717	Mower, S. E.	do	Nov. 18, 1890
449,718	Mower, S. E.	do	Nov. 18, 1890
447,255	Mower, S. E.	do	Feb. 24, 1891
450,970	Mower, S. E.	do	Apr. 21, 1891
433,904	Mower, S. E. and Spencer, G. J.	do	Aug. 5, 1890
448,157	Moyer, J. W. and Jackson, G. F.	Store service, switches	Mar. 10, 1891
434,992	Muehlberg, C. O.	Insulators	Aug. 26, 1890
435,551	Muirhead, A.	Telegraphy, duplex	Sept. 2, 1890
448,741	Mueller, E. T.	Lamp shades	Mar. 24, 1891
452,758	Müller, A. C. F.	Telephones, electric	May 19, 1891
449,750	Müller, F. and Greene, J. G.	Lighting, systems	Apr. 7, 1891
455,107	Munsie, J. F.	Railways, conductor supports and insulators	June 30, 1891
455,233	Munnsie, J. F.	Railways, systems, overhead	June 30, 1891
455,234	Munsie, J. F.	do	June 30, 1891
438,586	Murphy, R. E.	Batteries, galvanic	Oct. 14, 1890
437,613	Murray, J. W.	Railways, systems, overhead	Sept. 30, 1890
448,989	Narjot, E.	Air and gas engines, explosive	Mar. 24, 1891
447,896	Nash, F. J.	Conductors	Mar. 10, 1891
447,897	Nash, F. J.	do	Mar. 10, 1891
454,181	Nash, E. L., Stout, G. G. and Davis, J. R.	Connectors	June 16, 1891
449,249	Nelson, R. E.	Cash registers	Mar. 31, 1891
442,385	Neu, G. S.	Telegraphy, fire, alarms and extinguishers	Dec. 9, 1890
449,690	Newman, A.	Annunciators	Apr. 7, 1891
436,148	Newton, E. C.	Magneto-electric, couplings	Sept. 9, 1890
438,779	Newton, S. O. and M. A.	Drop lights and hangers	Oct. 21, 1890
437,789	Nichols, A. E.	Lights, arc, special features	Oct. 7, 1890
448,359	Nichols, H. B.	Conductors	Mar. 17, 1891
447,256	Nickerson, W. E. and Berrenberg, A.	Lights, incandescent	Feb. 24, 1891
433,254	Niles, H. B.	Glass, plate and window	July 29, 1890
445,475	Noriega, E.	Telephones, electric	Jan. 27, 1891
448,536	Norman, T. W.	Wire	Dec. 30, 1890
449,168	Norman, T. W.	Conductors	Mar. 31, 1891
435,152	Norton, J. A.	Cut-outs, mechanical	Aug. 26, 1890
450,973	Norton, J. A.	do	Apr. 21, 1891
440,362	Nourse, J. K. P.	Railways, systems, hattery	Nov. 11, 1890
433,022	Noyes, B. J.	Cut-outs, thermal	July 29, 1890
433,435	Noyes, B. J.	Telegraphy, fire	Aug. 5, 1890

No.	NAME.	CLASS.	DATE.
433,486	Noyes, B. J	Telegraphy, fire	Aug. 5, 1890
447,058	Noyes, B. J	do	Feb. 24, 1891
447,059	Noyes, B. J	do	Feb. 24, 1891
447,060	Noyes, B. J	do	Feb. 24, 1891
447,061	Noyes, B. J	do	Feb. 24, 1891
447,062	Noyes, B. J	do	Feb. 24, 1891
451,512	Noyes, B. J	do	May 5, 1891
450,182	Noyes, B. J. and Eaton, H. F.	do	Apr. 14, 1891
436,901	Nutting, S. E	Regulators	Sept. 23, 1890
440,604	Nutting, S. E	Lights, arc, positive feed	Nov. 11, 1890
448,666	Nutting, S. E	Magneto-electric	Mar. 24, 1891
434,879	Oakman, S	Insulators	Aug. 19, 1890
451,950	Oakman, S	do	May 12, 1891
442,996	O'Brien, J	Telephones, switch-boards	Dec. 16, 1890
454,016	O'Connell, J. J.	Telephones, systems	June 9, 1891
431,280	Odell, J. B	Perforating lace paper	July 1, 1890
433,210	Odell, J. B	Electric locomotives	July 29, 1890
434,880	Odell, J. B	Telegraphy, printing	Aug. 19, 1890
434,881	Odell, J. B	do	Aug. 19, 1890
436,740	Odell, J. B	do	Sept. 16, 1890
451,639	O'Donnell, M. A	Telegraphy, fire	May 5, 1891
436,432	Oehrle, W. E	Conductors	Sept. 16, 1890
448,726	Oeyan, T	Telephones, electric	Mar. 24, 1891
443,716	O'Meara, J	Valve controllers	Dec. 30, 1890
446,174	O'Meara, J	Heaters	Feb. 10, 1891
447,494	O'Meara, J	Rheostats	Mar. 3, 1891
448,743	O'Meara, J	Heaters	Mar. 24, 1891
441,578	O'Neil, J	Ship's logs	Nov. 25, 1890
441,579	O'Neil, J	Compasses	Nov. 25, 1890
452,281	O'Neil, J. C	Railway signals	May 12, 1891
443,724	Ongley, C. E	Telegraphy, fire, alarms and extinguishers	Dec. 30, 1890
443,725	Ongley, C. E	Telegraphy, fire	Dec. 30, 1890
443,726	Ongley, C. E	Telegraphy, printing	Dec. 30, 1890
443,727	Ongley, C. E	Lighting, systems	Dec. 30, 1890
443,787	Ongley, C. E	Time checks	Dec. 30, 1890
443,788	Ongley, C. E	do	Dec. 30, 1890
443,789	Ongley, C. E	Valve controllers	Dec. 30, 1890
443,790	Ongley, C. E	Recorders	Dec. 30, 1890
434,943	Orcutt, E. L	Connectors	Aug. 26, 1890
446,995	Orford, J. M	Lights, sockets and keys	Feb. 24, 1891
447,788	Orford, J. M. and English, J. C	Cut-outs, mechanical	Mar. 10, 1891
447,899	Otis, N. P	Elevators	Mar. 10, 1891
444,640	Otis, N. P. and Smith, R. C	Applications, tools and machines	Jan. 13, 1891
434,882	Ott, J. F	Electric locomotives	Aug. 19, 1890
444,599	Owen, A	Medical and surgical, body-wear	Jan. 13, 1891
441,773	Owen, R. O	Railway signals	Dec. 2, 1890
445,073	Packer, W. N. and Bradley, W. N	Clocks, electric	Jan. 20, 1891
442,451	Paiste, H. T	Lights, incandescent, special features	Dec. 9, 1890
442,452	Paiste, H. T	do	Dec. 9, 1890
432,432	Palmer, C. M	Applications, tools and machines	July 15, 1890
432,433	Palmer, C. M	do	July 15, 1890
455,005	Palmer, D. A	Alarms, burglar	June 30, 1891
450,184	Palmros, A	Railways, systems, overhead, trolleys	Apr. 14, 1891
433,180	Parcelle, A. L	Electric locomotives	July 29, 1890
433,181	Parcelle, A. L	do	July 29, 1890
450,975	Parcell, A. L	Magneto-electric	Apr. 21, 1891
433,185	Park, H. S	Time checks	Aug. 26, 1890
451,308	Park, H. S	Electro-magnets	Apr. 28, 1891
454,985	Parker, E. H	Dampers, automatic	June 30, 1891
447,198	Parker, J. A	Telegraphy, reed	Feb. 24, 1891
448,541	Parker, T. and Robinson, A. E	Electrolysis	Mar. 17, 1891
433,908	Parnly, S. P	Lights, arc, special features	Aug. 5, 1890
431,073	Parrish, M. W	Batteries, galvanic	July 1, 1890
432,894	Parrish, T. J	Rheostats	July 22, 1890
446,536	Parshall, H. F	Magneto-electric	Feb. 17, 1891
431,780	Parsley, W. L	Conductors, underground	July 8, 1890
449,569	Parsons, B. J	Railways, systems, overhead, trolleys	Mar. 31, 1891
438,174	Patterson, J. W	Vending apparatus	Oct. 14, 1890
433,025	Patterson, W. R	Conductors, underground	July 29, 1890
444,600	Patterson, W. R	Bells	Jan. 13, 1891
441,695	Patterson, W. S	Magneto-electric	Dec. 2, 1890
445,623	Patten, F. J	Motors, alternating	Feb. 3, 1891
445,624	Patten, F. J	do	Feb. 3, 1891
454,184	Pattison, R. and Desmond, D. G	Lights, incandescent, special features	June 16, 1891
434,993	Patton, W. H	Electric locomotives	Aug. 26, 1890
433,959	Paul, W. C. and Kleinstercher, A. D	Railway signals	Aug. 12, 1890
439,178	Pauthonier, C	Lights, incandescent	Oct. 28, 1890

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440,268	Payen, C	Lead	Nov. 11, 1890
440,269	Payen, C	do	Nov. 11, 1890
440,270	Payen, C	do	Nov. 11, 1890
440,271	Payen, C	do	Nov. 11, 1890
440,272	Payen, C	do	Nov. 11, 1890
440,273	Payen, C	do	Nov. 11, 1890
440,274	Payen, C	do	Nov. 11, 1890
440,275	Payen, C	do	Nov. 11, 1890
440,276	Payen, C	do	Nov. 11, 1890
440,277	Payen, C	do	Nov. 11, 1890
440,575	Payen, C	do	Nov. 11, 1890
444,223	Payne, C. Q	Separators	Jan. 6, 1891
451,514	Payne, J. M	Car brakes	May 5, 1891
448,927	Peacock, R. and Lange, H. L.	Electric locomotives	Mar. 24, 1891
434,835	Pearson, P	Telegraphy, circuits and systems	Aug. 19, 1890
440,189	Peckham, E	Electric locomotives	Nov. 11, 1890
434,457	Pepper, D., jr	Batteries, secondary	Aug. 19, 1890
434,458	Pepper, D., jr	do	Aug. 19, 1890
441,807	Pepper, D., jr	Regulators	Dec. 2, 1890
436,087	Perkins, C. G	Cut-outs, mechanical	Sept. 9, 1890
436,107	Perkins, C. G	do	Sept. 9, 1890
439,180	Perkins, F. B	Applications, tools and machines	Oct. 28, 1890
435,447	Perkins, L. M	Railways, systems, closed conduit	Sept. 2, 1890
432,169	Perret, F. A	Magneto-electric	July 15, 1890
448,669	Perret, F. A	do	Mar. 24, 1891
435,516	Perls, T	Railway signals	Sept. 2, 1890
434,032	Pfannkuche, G	Galvanometers	Aug. 12, 1890
438,359	Pfingst, L	Railways, systems, overhead, trolleys	Oct. 14, 1890
439,182	Pfingst, L	do	Oct. 28, 1890
440,720	Pfluger, C. A	Cut-outs, mechanical	Nov. 18, 1890
439,304	Phillips, J. O	Lights, sockets and keys	Oct. 28, 1890
434,885	Phillips, W. A	Conductors	Aug. 19, 1890
434,226	Pieper, O. H. and Watson, F. M	Telegraphy, circuit closers	June 16, 1891
440,015	Pierce, F	Alarms, burglar	Nov. 4, 1890
440,115	Pierce, F	do	Nov. 4, 1890
454,949	Pilkington, H. M. and White, R. S	Meters	June 30, 1891
453,416	Pinolet, L. M	Annunciators	June 2, 1891
438,361	Plumb, C	Telegraphy, fire	Oct. 14, 1890
448,838	Pocock, F. A	Railways, systems, conduit	Mar. 24, 1891
450,189	Pocock, F. A	Railways, grippers, whelp wheel	Apr. 14, 1891
432,710	Poland, L. N. P	Lights, filaments and carbons	July 22, 1890
451,700	Poland, L. N. P	Magneto-electric	May 5, 1891
431,617	Pollak, C. F	Hardware making, miscellaneous	July 8, 1890
435,518	Pollok, J	Incrustation	Sept. 2, 1890
431,618	Polson, G. A	Regulators	July 8, 1890
451,951	Pope, E	Telegraphy, printing	May 12, 1891
438,767	Popp, V	Clocks, pneumatic	Oct. 21, 1890
432,896	Porter, C. S	Electro-magnets	July 22, 1890
441,892	Possons, W. J	Electro-deposition	Dec. 2, 1890
441,893	Possons, W. J	do	Dec. 2, 1890
441,894	Possons, W. J	do	Dec. 2, 1890
434,949	Possons, N. S	Electric locomotives	Aug. 26, 1890
435,102	Possons, N. S	Cut-outs, thermal	Aug. 26, 1890
445,253	Potter, J. S	Lights, incandescent, special features	Jan. 27, 1891
436,316	Potter, J. S., Cartwright, D. J. and Keyes, B. B	Lights, sockets and keys	Sept. 9, 1890
443,404	Potter, J. S. and Cartwright, D. J	do	Dec. 23, 1890
444,317	Potter, J. S. and Cartwright, D. J	Insulators	Jan. 6, 1891
437,348	Powell, S. L	Railway signals	Sept. 30, 1890
443,149	Powell, S. L	do	Dec. 23, 1890
443,167	Powell, S. L	do	Dec. 23, 1890
450,319	Pragnell, G. E	Bells	Apr. 14, 1891
443,226	Pratt, J. L	Medical and surgical, body-wear	Dec. 23, 1890
448,365	Pratt, R. D	Lights, sockets and keys	Mar. 17, 1891
452,955	Prentiss, H. S	Clocks, electric	May 26, 1891
452,956	Prentiss, H. S	do	May 26, 1891
435,545	Prescott, G. B., jr	Regulators	Sept. 2, 1890
453,733	Price, J. E	Conductors, underground	June 9, 1891
440,776	Pullman, H. B	Motors	Nov. 18, 1890
434,199	Pumpelly, J. K	Batteries, secondary	Aug. 12, 1890
442,390	Pumpelly, J. K	do	Dec. 9, 1890
442,391	Pumpelly, J. K	do	Dec. 9, 1890
437,510	Purdy, A. F	Telegraphy, keys	Sept. 30, 1890
432,215	Rabinowicz, I	Insulating materials	July 29, 1890
437,512	Rae, F. B	Telegraphy, dynamo	Sept. 30, 1890
437,513	Rae, F. B	Cut-outs, mechanical	Sept. 30, 1890
437,661	Rae, F. B	Electric locomotives	Sept. 30, 1890
437,662	Rae, F. B	Motors	Sept. 30, 1890

No.	NAME.	CLASS.	DATE.
437,663	Rae, F. B	Magneto-electric	Sept. 30, 1890
440,817	Rae, F. B	do	Nov. 18, 1890
443,111	Rae, F. B	Telegraphy, printing	Dec. 23, 1890
446,613	Rae, F. B	Railways, systems, battery	Feb. 17, 1891
454,496	Rae, F. B	Telegraphy, lightning arresters	June 23, 1891
454,626	Rae, F. B	Motors	June 23, 1891
452,983	Radford, C. M	Lightning rods	May 26, 1891
455,055	Ramsay, W	Clocks, electric	June 30, 1891
440,502	Ramsey, J., jr., and Weir, F. C	Railway signals	Nov. 11, 1890
440,503	Ramsey, J., jr., and Weir, F. C	do	Nov. 11, 1890
443,004	Ramsey, W. M	Railways, systems, overhead, trolleys	Dec. 16, 1890
442,005	Ramsey, W. M	Railways, conductor supports and insulators	Dec. 16, 1890
444,110	Randall, B. L	Electric locomotives	Jan. 6, 1891
437,798	Ransom, G. F	Annunciators	Oct. 7, 1890
441,972	Rapieff, J	Distance instruments	Dec. 2, 1890
441,973	Rapieff, J	do	Dec. 2, 1890
441,974	Rapieff, J	do	Dec. 2, 1890
434,951	Raughtigan, M	Regulators	Aug. 26, 1890
437,944	Rawson, F. L	Insulating materials	Sept. 23, 1890
454,155	Readman, W	Conductors, underground	June 16, 1891
450,572	Reardon, C. B.	Applications, general	Apr. 21, 1891
432,561	Reckenzauu, A	Motors	July 22, 1890
437,763	Reckenzauu, A	Meters	Oct. 7, 1890
432,215	Redding, H	Igniting devices, manual	July 15, 1890
448,587	Redfield, C. L	Printing, matrix-making	Mar. 17, 1891
448,994	Redfield, C. L	do	Mar. 24, 1891
437,720	Reed, E. M	Railways, systems, conduit	Oct. 7, 1890
441,256	Reese, T., jr.	Magneto-electric	Nov. 25, 1890
448,369	Regan, D. S	Air and gas engines, explosive	Mar. 17, 1891
445,234	Reilly, J. C	Conductors, anti-inductive	Jan. 27, 1891
447,350	Reilly, J. C	Conductors, underground	Mar. 3, 1891
450,425	Reinemann, A	Telegraphy, circuit closers, thermal	Apr. 14, 1891
434,159	Reinmann, A. L	Lights, incandescent	Aug. 12, 1890
448,164	Reinmann, C. F	Lights, incandescent, special features	Mar. 10, 1891
440,505	Renault, B. and Desvernay, M	Batteries, secondary	Nov. 11, 1890
433,216	Reppy, A. W	Telegraphy, railway-car	July 29, 1890
444,104	Reppy, A. W	Lights, arc, gravity feed, gear-clutch	Jan. 6, 1891
438,827	Reynier, E. N	Batteries, secondary	Oct. 21, 1890
446,614	Ricc, D. H	Telephones, calls	Feb. 17, 1891
446,712	Rice, D. H	do	Feb. 17, 1891
432,644	Rice, E. W., jr	Electric locomotives	July 22, 1890
440,654	Rice, E. W., jr	Telegraphy, lightning arresters	Nov. 18, 1890
442,668	Rice, E. W., jr	Regulators	Dec. 16, 1890
444,922	Rice, E. W., jr	Electric locomotives	Jan. 20, 1891
447,352	Rice, E. W., jr	Magneto-electric	Mar. 3, 1891
448,260	Rice, E. W., jr	Electric locomotives	Mar. 17, 1891
451,520	Rice, E. W., jr	Meters	May 5, 1891
451,521	Rice, E. W., jr	Telegraphy, lightning arresters	May 5, 1891
451,574	Rice, L. C	Magneto-electric	May 5, 1891
447,353	Rich, C. C	Heaters	Mar. 3, 1891
438,897	Richards, F. H	Separators	Oct. 21, 1890
432,645	Richards, J. E	Recorders	July 22, 1890
438,828	Richards, W. L	Telephones, magnetic	Oct. 21, 1890
440,326	Richards, W. S	Lighting, systems	Nov. 11, 1890
438,326	Richardson, G. W	do	Oct. 14, 1890
439,428	Richter, C	Railways, systems, circuits, series	Oct. 28, 1890
451,226	Ricketts, J. L	Annunciators, drop	Apr. 28, 1891
431,482	Ries, E. E	Railways, systems, converter	July 1, 1890
444,855	Ries, E. E	Heaters	Jan. 20, 1891
452,041	Ries, E. E	Car brakes	May 12, 1891
452,042	Ries, E. E	Heaters	May 12, 1891
453,162	Ries, E. E	Tempering and annealing	May 26, 1891
453,163	Ries, E. E	do	May 26, 1891
453,164	Ries, E. E	Heaters	May 26, 1891
440,925	Riggs, J. W	Railway signals	Nov. 18, 1890
440,926	Riggs, J. W	do	Nov. 18, 1890
440,927	Riggs, J. W	do	Nov. 18, 1890
441,703	Riggs, J. W	do	Dec. 2, 1890
443,227	Riker, A. L	Electric locomotives	Dec. 23, 1890
452,717	Riker, A. L	Magneto-electric	May 19, 1891
452,718	Riker, A. L	do	May 19, 1891
437,868	Ritchie, A. M	Galvanometers	Oct. 7, 1890
441,800	Ritfield, E. H	Railways, conductor supports and insulators	Dec. 2, 1890
435,368	Robb, J. T	Lights, incandescent, special features	Aug. 26, 1890
434,468	Robb, R	Heaters	Aug. 19, 1890
433,421	Robbins, A. C	Telegraphy, fire	July 29, 1890
449,174	Robbins, H. G	Telegraphy, transmitters	Mar. 31, 1891

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442,203	Roberts, I. L.	Batteries, secondary	Dec. 9, 1890
442,204	Roberts, I. L.	do	Dec. 9, 1890
442,332	Roberts, I. L.	Electrolysis	Dec. 9, 1890
442,333	Roberts, I. L.	do	Dec. 9, 1890
442,334	Roberts, I. L.	do	Dec. 9, 1890
442,335	Roberts, I. L.	Paper making, fabrics	Dec. 9, 1890
442,336	Roberts, I. L.	Batteries, galvanic	Dec. 9, 1890
442,396	Roberts, I. L.	Electrolysis	Dec. 9, 1890
442,594	Roberts, I. L.	do	Dec. 9, 1890
435,668	Roberts, J.	Lights, incandescent, special features	Sept. 2, 1890
436,804	Roberts, M. J.	Dental instruments	Sept. 23, 1890
449,238	Robinson, A.	Heaters	Mar. 31, 1891
450,193	Robinson, C. A.	Railways, systems	Apr. 14, 1891
449,886	Robinson, F. and Lander, P. W. J.	Railways, systems, overhead, trolleys	Apr. 7, 1891
447,016	Robinson, M. W.	Batteries, galvanic	Feb. 24, 1891
436,439	Robinson, W.	Electric locomotives	Sept. 16, 1890
436,440	Robinson, W.	do	Sept. 16, 1890
436,742	Robinson, W.	do	Sept. 16, 1890
436,743	Robinson, W.	do	Sept. 16, 1890
438,307	Robinson, W. E.	Indicators	July 29, 1890
435,024	Rockwell, F. C.	Lights, sockets and keys	Aug. 26, 1890
433,698	Roebuck, T. G.	do	Aug. 5, 1890
454,627	Roney, A. B.	Motors	June 23, 1891
440,118	Root, H. C.	Telephones, systems	Nov. 4, 1890
440,199	Rosebrugh, A. M.	Telegraphy, circuits and systems	Nov. 11, 1890
442,139	Rosebrugb, A. M.	Anti-induction devices	Dec. 9, 1890
447,906	Rosenfield, W. W.	Railway signals	Mar. 10, 1891
435,248	Rothlisberger, E.	Lights, arc, gravity feed, gear-clutch	Aug. 26, 1890
450,426	Roulez, J. E.	Telephones, electric	Apr. 14, 1891
466,208	Röver, A. B.	Scale beams	Feb. 10, 1891
443,181	Rowland, H. A. and Duncan, L.	Batteries, secondary, applications	Dec. 23, 1890
439,192	Rowell, B. C. and Galloupe, F. E.	Railways, systems, overhead, trolleys	Oct. 28, 1890
443,182	Ruddick, J. J.	Telegraphy, fire	Dec. 23, 1890
454,294	Rushmore, S. W.	Lights, arc, positive feed, clutch	June 16, 1891
454,295	Rushmore, S. W.	Lights, arc, positive feed, gear-clutch	June 16, 1891
432,284	Russell, E. C.	Lights, arc, gravity feed, clutch	July 15, 1890
446,549	Russell, E. C.	Lights, arc, special features	Feb. 17, 1891
454,529	Rutter, G. E.	Coin controlled apparatus, weighing	June 23, 1891
442,140	Sabold, F. W.	Railways, systems	Dec. 9, 1890
452,760	Salathé, F.	Insulating materials	May 19, 1891
452,765	Salaté, F.	do	May 19, 1891
431,999	Salisbury, W. S.	Apparel, cutting	July 8, 1890
440,503	Sargent, F.	Telegraphy, railway-car	Nov. 11, 1890
433,744	Sargent, M. O.	Cut-outs, thermal	Aug. 5, 1890
433,041	Sauderson, L.	Lights, filaments and carbons	July 29, 1890
454,604	Sautter, G.	Lights, arc, special features	June 23, 1891
452,288	Savage, W. W.	Lights, incandescent, special features	May 12, 1891
437,516	Sawyer, R. F.	Lighting, systems	Sept. 30, 1890
453,349	Sawyer, R. F.	do	June 2, 1891
448,998	Scales, W. S.	Clocks, electric	Mar. 24, 1891
448,999	Scales, W. S.	do	Mar. 24, 1891
449,180	Schatz, A. E.	Telephones, details	Mar. 31, 1891
451,309	Schefbauer, R.	Lights, arc, gravity feed, gear-clutch	Apr. 28, 1891
443,407	Scheuritzel, C. P. and Hess, J. L.	Magneto-electric	Dec. 23, 1890
442,208	Schiffmann, W. W.	Motors	Dec. 9, 1890
433,371	Schirner, A.	Lights, sockets and keys	July 29, 1890
440,241	Sehlegel, H. T.	Clocks, electric	Nov. 11, 1890
441,330	Schleschinger, W. M.	Electric locomotives	Nov. 25, 1890
449,090	Schlesinger, W. M.	Stone working, drills	Mar. 24, 1891
434,206	Schmid, A.	Magneto-electric	Aug. 12, 1890
442,459	Schmid, A.	Electric locomotives	Dec. 9, 1890
438,780	Schmid, F. M.	Electro-magnets	Oct. 21, 1890
452,392	Schmidt, F. M.	Clocks, electric	May 19, 1891
431,955	Schneider, J. F. and Carson, D. K.	Towers, telegraph poles	July 8, 1890
434,093	Schoop, P.	Batteries, secondary	Aug. 12, 1890
434,301	Schoop, P.	do	Aug. 12, 1890
442,338	Schreuder, J. G.	Telegraphy, relays and sounders	Dec. 9, 1890
442,339	Schreuder, J. G.	Railway signals	Dec. 9, 1890
447,535	Schroeder, G. G.	Electrolysis	Mar. 3, 1891
436,154	Schroen, F. C.	Railway signals	Sept. 9, 1890
441,588	Schnlitz, G.	Cut-outs, mechanical	Nov. 25, 1890
445,906	Schwarze, C. J.	Magneto-electric	Feb. 3, 1891
446,297	Schwarze, C. J.	Lights, arc, gravity feed, gear-clutch	Feb. 10, 1891
446,298	Schwarze, C. J.	Lighting, systems	Feb. 10, 1891
440,441	Schwartz, F.	Clocks, electric	Nov. 11, 1890
445,822	Scott, G. A.	Lights, incandescent, special features	Feb. 3, 1891
431,784	Scott, G. B.	Telegraphy, printing	July 8, 1890

No.	NAME.	CLASS.	DATE.
434,892	Scott, G. J	Connectors	Aug. 19, 1890
454,881	Scott, G. J	Railways, systems, overhead	June 30, 1891
454,882	Scott, G. J	Motors	June 30, 1891
454,883	Scott, G. J	Inductoriums, transformers, rotary	June 30, 1891
433,045	Scribner, C. E.	Cut-outs, thermal	July 29, 1890
433,046	Scribner, C. E.	Telephones, systems	July 29, 1890
433,047	Scribner, C. E.	do	July 29, 1890
433,424	Scribner, C. E.	do	July 29, 1890
435,525	Scribner, C. E.	Regulators	Sept. 2, 1890
435,526	Scribner, C. E.	do	Sept. 2, 1890
435,527	Scribner, C. E.	do	Sept. 2, 1890
442,143	Scribner, C. E.	Telephones, systems	Dec. 9, 1890
442,144	Scribner, C. E.	do	Dec. 9, 1890
442,145	Scribner, C. E.	do	Dec. 9, 1890
442,146	Scribner, C. E.	do	Dec. 9, 1890
452,941	Scribner, C. E.	Dynamometers	May 26, 1891
443,464	Sedgwick, F	Tempering and annealing	Dec. 23, 1890
454,884	Sedgwick, F	Telegraphy, printing	June 30, 1891
431,531	Seely, J. A	Telephones, systems	July 1, 1890
450,639	Seiberling, J. F	Magneto-electric	Apr. 21, 1891
432,571	Seibert, N	Railways, systems, conduit	July 22, 1890
441,258	Seibert, N	do	Nov. 25, 1890
446,475	Seibert, N	do	Feb. 17, 1891
447,702	Seibold, A. C	Lights, filaments and carbons	Mar. 3, 1891
448,084	Seibold, A. C	Lights, arc, special features	Mar. 10, 1891
454,187	Sellon, J. S.	Batteries, secondary	June 16, 1891
446,895	Seymour, A. P	Cut-outs, thermal	Feb. 24, 1891
441,622	Shaffer, C. H	Telegraphy, circuit closers, thermal	Nov. 25, 1890
452,735	Shaffer, C. H	Telegraphy, fire, automatic	May 19, 1891
439,200	Shanck, H. K	Air and gas engines, explosive	Oct. 28, 1890
431,235	Shallenberger, O. B	Regulators, alternating	July 1, 1890
448,676	Shallenberger, O. B	Meters	Mar. 24, 1891
448,677	Shallenberger, O. B	do	Mar. 24, 1891
449,001	Shallenberger, O. B	do	Mar. 24, 1891
449,002	Shallenberger, O. B	do	Mar. 24, 1891
449,003	Shallenberger, O. B	do	Mar. 24, 1891
434,162	Shallenberger, O. B. and Byllesby, H. M	Systems of distribution	Aug. 12, 1890
433,187	Shapleigh, M. S	Cut-outs, thermal	July 29, 1890
438,116	Shapleigh, W	Batteries, secondary, applications	Oct. 7, 1890
438,117	Shapleigh, W	Metallurgy, lead	Oct. 7, 1890
445,907	Sharp, E. P	Motors	Feb. 3, 1891
445,908	Sharp, E. P	Railways, conductor supports and insulators	Feb. 3, 1891
451,212	Sharp, E. P	Motors	Apr. 28, 1891
452,619	Shaw, A. J	Machine brakes	May 19, 1891
438,192	Shawhan, J. F	Railways, systems, battery	Oct. 14, 1890
453,216	Shawhan, J. F	Electric locomotives	June 2, 1891
441,030	Sheldon, W. D	Railway signals	Nov. 18, 1890
441,031	Sheldon, W. D	do	Nov. 18, 1890
441,032	Sheldon, W. D	Railway gates, electric	Nov. 18, 1890
441,033	Sheldon, W. D	Railway signals	Nov. 18, 1890
441,034	Sheldon, W. D	do	Nov. 18, 1890
454,573	Sherman, W. N	Medical and surgical, body-wear	June 23, 1891
446,477	Shilliuglaw, A	Lights, incandescent, special features	Feb. 17, 1891
452,585	Shivler, H. C	Annunciators, drop	May 19, 1891
448,679	Shlaudeman, F	Lights, sockets and keys	Mar. 24, 1891
448,680	Shlaudeman, F	Connectors	Mar. 24, 1891
466,212	Shorey, G. L	Dampers, automatic, pressure motor	Feb. 10, 1891
431,711	Short, S. H	Railways, systems	July 8, 1890
434,034	Short, S. H	Electric locomotives	Aug. 12, 1890
438,495	Short, S. H	Insulators	Oct. 14, 1890
445,479	Short, S. H	Railways, systems	Jan. 27, 1891
445,654	Short, S. H	Electric locomotives	Feb. 3, 1891
445,841	Short, S. H	Connectors	Feb. 3, 1891
446,931	Short, S. H	Railways, systems, overhead, trolleys	Feb. 24, 1891
447,208	Short, S. H	Railways, conductor supports and insulators	Feb. 24, 1891
447,495	Short, S. H	do	Mar. 3, 1891
448,303	Short, S. H	Magneto-electric, couplings	Mar. 17, 1891
448,681	Short, S. H	Regulators	Mar. 24, 1891
448,682	Short, S. H	Rheostats	Mar. 24, 1891
448,840	Short, S. H	Electric locomotives	Mar. 24, 1891
449,709	Short, S. H	do	Apr. 7, 1891
450,683	Short, S. H	Railways, systems, overhead, trolleys	Apr. 21, 1891
451,980	Short, S. H	Electric locomotives	May 12, 1891
451,981	Short, S. H	do	May 12, 1891
452,005	Short, S. H	do	May 12, 1891
452,035	Short, S. H	do	May 12, 1891
452,036	Short, S. H	do	May 12, 1891

No.	NAME.	CLASS.	DATE.
452,621	Short, S. H.	Electric locomotives	May 19, 1891
452,622	Short, S. H.	do	May 19, 1891
454,008	Short, S. H.	do	June 9, 1891
439,904	Shubert, H. C.	Lights, arc, positive feed, clutch	Nov. 4, 1890
449,766	Shuhert, H. C.	Galvanometers	Apr. 7, 1891
454,969	Sigshee, C. D., Hayward, T. S. and Anderson, F. S.	Rheostats	June 30, 1891
436,319	Silkman, E. J.	Type-writing	Sept. 9, 1890
448,271	Silkman, E. J.	do	Mar. 17, 1891
441,982	Simpson, I. H.	Alarms	Dec. 2, 1890
443,169	Simpson, J. T.	Lamp shades	Dec. 23, 1890
450,896	Sims, J. C.	Telegraphy, circuit closers, thermal	Apr. 21, 1891
450,875	Sims, W. S.	Steering and propulsion	Apr. 21, 1891
436,640	Singer, W. F.	Telegraphy, fire	Sept. 16, 1890
448,684	Singer, W. F.	do	Mar. 24, 1891
450,260	Singer, W. F.	Telegraphy, circuit closers, thermal	Apr. 14, 1891
444,154	Skinner, J. J.	Lights, arc, gravity feed, clutch	Jan. 6, 1891
449,866	Slater, W. W.	Bells	Apr. 7, 1891
452,942	Slater, W. W.	Railway brakes, electric	May 26, 1891
446,104	Slattery, M. M. M.	Batteries, secondary	Feb. 10, 1891
449,829	Slocum, E. L.	Telegraphy, fire, alarms and extinguishers	Apr. 7, 1891
439,308	Slocum, G. S.	Railways, systems, overhead, trolleys	Oct. 28, 1890
448,565	Smith, C. G.	Drop lights and hangers	Mar. 24, 1891
448,594	Smith, C. R.	Wire	Mar. 17, 1891
438,260	Smith, C. W. and Lyons, C. J.	Railways, switches, tramway	Oct. 14, 1890
404,375	Smith, F. S.	Organ hollows	Nov. 11, 1890
443,976	Smith, G. A.	Batteries, galvanic	Dec. 30, 1890
454,815	Smith, G. W.	Lights, arc, special features	June 23, 1891
436,023	Smith, H. J.	Projectiles, primers	Sept. 9, 1890
442,734	Smith, J. R. and Childs, W.	Telephones, systems, automatic	Dec. 16, 1890
432,646	Smith, M. H.	Locomotion	July 22, 1890
436,543	Smith, R. D. O.	Applications, tools and machines	Sept. 23, 1890
446,935	Smith, R. T.	Railway cars, brakes	Feb. 24, 1891
443,381	Smith, S. W.	Telegraphy, transmitters	Dec. 23, 1890
447,166	Smith, S. W.	do	Feb. 24, 1891
444,466	Smith, T. C.	Lights, incandescent, special features	Jan. 13, 1891
453,248	Smith, T. C.	Lighting, systems	June 2, 1891
455,126	Smith, W. A. M. and R. T. F.	Post-office boxes	June 30, 1891
435,047	Smith, W. F.	Lights, sockets and keys	Aug. 26, 1890
435,048	Smith, W. F.	Cut-outs, thermal	Aug. 26, 1890
435,049	Smith, W. F.	Lights, sockets and keys	Aug. 26, 1890
438,118	Smith, W. F.	Cut-outs, mechanical	Oct. 7, 1890
431,408	Snee, W.	Railway signals	July 1, 1890
436,910	Snelgrove, W.	Scale beams	Sept. 23, 1890
441,591	Snyder, J. M.	Dampers, automatic	Nov. 25, 1890
448,378	Soden, F. H.	Indicators	Mar. 17, 1891
432,577	Spang, H. W.	Magneto-electric	July 22, 1890
433,051	Spang, H. W.	do	July 29, 1890
437,526	Spang, H. W.	Lightning rods	Sept. 30, 1890
433,375	Sparrow, F. M.	Valve-controllers	July 29, 1890
454,546	Sperry, A. W.	Conductors	June 23, 1891
454,547	Sperry, A. W.	Insulating materials	June 23, 1891
454,548	Sperry, A. W.	do	June 23, 1891
434,096	Sperry, E. A.	Motors	Aug. 12, 1890
434,097	Sperry, E. A.	Street cars, steam	Aug. 12, 1890
434,098	Sperry, E. A.	do	Aug. 12, 1890
434,363	Sperry, E. A.	Electric locomotives	Aug. 12, 1890
446,030	Sperry, E. A.	Transmission of power	Feb. 10, 1891
446,031	Sperry, E. A.	Cut-outs, mechanical	Feb. 10, 1891
453,822	Sperry, E. A.	Magneto-electric	June 9, 1891
437,632	Splitdorf, C. F.	Conductors	Sept. 30, 1890
431,823	Sprague, F. J.	Electric locomotives	July 8, 1890
433,425	Sprague, F. J.	Railways, systems, overhead, trolleys	July 29, 1890
438,293	Sprague, F. J.	Railways, systems, circuits, multiple arc	Oct. 14, 1890
445,515	Sprague, F. J. and Branth, J. F. S.	Railways, systems, overhead	Jan. 27, 1891
437,259	Sprague, F. J.	Gearing	Sept. 30, 1890
439,906	Sprague, W. B. and Kellogg, C. W.	Railway signals	Nov. 4, 1890
445,358	Sprinkmann, F.	Boiler coverings	Jan. 27, 1891
438,390	Stanley, A. F.	Annunciators	Oct. 14, 1890
449,832	Stanley, A. F.	Bells	Apr. 7, 1891
437,667	Stanley, L. T.	Cut-outs, mechanical	Sept. 30, 1890
431,216	Stanley, W., jr.	Regulators, alternating	July 1, 1890
431,217	Stanley, W., jr.	do	July 1, 1890
431,218	Stanley, W., jr.	do	July 1, 1890
435,982	Stanley, W., jr.	Regulators	Sept. 9, 1890
439,042	Stanley, W., jr.	Motors, alternating	Oct. 21, 1890
450,641	Stanley, W., jr.	Regulators	Apr. 21, 1891

No.	NAME.	CLASS.	DATE.
443,729	Steele, J. W.	Railway gates, automatic, mast	Dec. 30, 1890
443,730	Steele, J. W.	Railways, automatic signals, danger	Dec. 30, 1890
443,731	Steele, J. W.	Railways, automatic signals, trip	Dec. 30, 1890
443,732	Steed, J. W.	Railway gates, electric	Dec. 30, 1890
435,983	Stephens, W.	Transmission of power	Sept. 9, 1890
442,744	Stephenson, J.	Railways, systems, battery	Dec. 16, 1890
450,846	Stephenson, J.	Electric locomotives	Apr. 21, 1891
454,888	Stephenson, J.	do	June 30, 1891
449,977	Stern, W. A.	Towers, telegraph poles	Apr. 7, 1891
451,603	Sterry, T. N.	Applications, general	May 5, 1891
445,721	Stevens, B. A.	Telephones, details	Feb. 3, 1891
454,266	Stevens, W. and Hovey, H. J.	Railway signals, block	June 30, 1891
434,682	Stevens, W. L. and Wescott, E. J.	Railways, systems, overhead, trolleys	Aug. 19, 1890
448,461	Stewart, R. A.	Railways, systems, conduit	Mar. 17, 1891
443,551	Stillman, F. H.	Lead pipe making	Dec. 30, 1890
434,163	Stilwell, L. B.	Telegraphy, lightning arresters	Aug. 12, 1890
435,105	Stitzel, F.	Railway signals	Aug. 26, 1890
445,653	Stitzel, F. and Weinedel, C.	do	Feb. 3, 1891
451,282	St. John, S. H. and Jennings, F. A.	Station indicators	Apr. 28, 1891
449,299	Stoecker, H. P.	Batteries, galvanic	Mar. 31, 1891
451,414	Storer, A.	Bells	Apr. 28, 1891
439,792	Storey, I. E.	Pumps, double piston	Nov. 4, 1890
448,273	Stout, J. V.	Valve-controllers	Mar. 17, 1891
448,274	Stout, J. V.	do	Mar. 17, 1891
453,871	Stovell, O. H.	Lighting, systems	June 9, 1891
436,747	Stover, J. W.	Telegraphy, fire	Sept. 16, 1890
451,902	Stover, J. W.	do	May 5, 1891
454,669	Strauss, J. B.	Connectors	June 23, 1891
452,397	Straus, M.	Telegraphy, circuit-closers	May 19, 1891
435,866	Streichenberg, G. H.	do	Sept. 2, 1890
438,653	Striemer, A.	Time alarms	Oct. 21, 1890
445,341	Striemer, A.	do	Jan. 27, 1891
447,918	Strowger, A. B.	Telephones, systems, automatic	Mar. 10, 1891
431,412	Studte, H.	Connectors	July 1, 1890
438,784	Stut, J. C. H.	Telephones, electric	Oct. 21, 1890
453,093	Sullivan, J.	Railways, systems, overhead, trolleys	May 26, 1891
439,441	Summerskill, C. W.	Telegraphy, circuit closers, thermal	Oct. 28, 1890
454,503	Sundeen, A. D., Molander, S. B., Anderson, G. W. and Carlsen, A. M.	Telephones, systems	June 23, 1891
454,504	Sundeen, A. D., Molander, S. B., Auderson, G. W. and Carlsen, A. M.	Telephones, calls	June 23, 1891
439,363	Swan, A.	Lights, sockets and keys	Oct. 28, 1890
439,364	Swan, A.	do	Oct. 28, 1890
439,365	Swan, A.	do	Oct. 28, 1890
439,366	Swan, A.	do	Oct. 28, 1890
439,367	Swan, A.	do	Oct. 28, 1890
432,095	Swart, W. D.	Railways, systems	July 15, 1890
437,946	Swett, E. A.	Magneto-electric	Oct. 7, 1890
448,166	Sweet, E. A.	Cut-outs, electro-magnetic	Mar. 10, 1891
436,387	Swift, H. E.	Lights, sockets and keys	Sept. 16, 1890
438,564	Swift, H. E.	Railways, systems, telpher, solenoid	Oct. 14, 1890
441,259	Sylvester, P. L.	Slidable pusher, coin engaged	Nov. 25, 1890
447,529	Taintor, G.	Cut-outs, electro-magnetic	Mar. 3, 1891
440,071	Talmage, C. H.	Heaters	Nov. 4, 1890
442,649	Talmage, C. H.	do	Dec. 16, 1890
450,645	Taylor, J. D.	Telephones, calls	Apr. 21, 1891
450,646	Taylor, J. D.	Railway signals	Apr. 21, 1891
432,453	Taylor, W. W.	Telegraphy, printing	July 15, 1890
442,497	Taylor, W. W.	do	Dec. 9, 1890
454,087	Teague, F.	Cut-outs, mechanical	June 16, 1891
434,164	Terry, C. A.	Inductoiums, transformers, stationary	Aug. 12, 1890
433,700	Tesla, N.	Motors, alternating	Aug. 5, 1890
433,701	Tesla, N.	do	Aug. 5, 1890
433,702	Tesla, N.	Inductoiums, transformers, stationary	Aug. 5, 1890
433,703	Tesla, N.	Motors, alternating	Aug. 5, 1890
445,207	Tesla, N.	do	Jan. 27, 1891
447,920	Tesla, N.	Lighting, systems	Mar. 10, 1891
447,921	Tesla, N.	Magneto-electric	Mar. 10, 1891
454,622	Tesla, N.	Lighting, systems	June 23, 1891
455,067	Tesla, N.	Motors, alternating	June 30, 1891
455,068	Tesla, N.	Meters	June 30, 1891
455,069	Tesla, N.	Lights, incandescent	June 30, 1891
452,201	Thatcher, E. H.	Railways, elevated	May 12, 1891
435,259	Thew, G.	Railway signals	Aug. 26, 1890
433,544	Thobe, A. A. and Embley, W.	Railways, systems, conduit	Aug. 5, 1890
444,735	Thomas, M. E.	Medical and surgical, body-wear	Jan. 13, 1891
455,071	Thompson, F. H.	Lights, arc, gravity feed, clutch	June 30, 1891

No.	NAME.	CLASS.	DATE.
451,202	Thomson, D. P.	Drop lights and hangers	Apr. 28, 1891
431,414	Thomson, E.	Railways, conductor supports and insulators	July 1, 1890
432,581	Thomson, E.	Railways, systems, overhead	July 22, 1890
432,651	Thomson, E.	Heaters	July 22, 1890
432,652	Thomson, E.	Magneto-electric	July 22, 1890
432,653	Thomson, E.	Heaters	July 22, 1890
432,654	Thomson, E.	Meters	July 22, 1890
432,655	Thomson, E.	Magneto-electric	July 22, 1890
432,656	Thomson, E.	Heaters	July 22, 1890
434,488	Thomson, E.	Motors, alternating	Aug. 19, 1890
434,489	Thomson, E.	Transmission of power	Aug. 19, 1890
434,530	Thomson, E.	Heaters	Aug. 19, 1890
434,531	Thomson, E.	do	Aug. 19, 1890
434,532	Thomson, E.	do	Aug. 19, 1890
434,961	Thomson, E.	Railways, conductor supports and insulators	Aug. 26, 1890
435,870	Thomson, E.	do	Sept. 2, 1890
438,204	Thomson, E.	Regulators	Oct. 14, 1890
438,656	Thomson, E.	do	Oct. 21, 1890
438,657	Thomson, E.	Heaters	Oct. 21, 1890
438,658	Thomson, E.	do	Oct. 21, 1890
440,664	Thomson, E.	do	Nov. 18, 1890
440,665	Thomson, E.	Railways, systems, overhead, trolleys	Nov. 18, 1890
444,678	Thomson, E.	Telegraphy, lightning arresters	Jan. 13, 1891
444,925	Thomson, E.	Lights, arc, gravity feed, clutch	Jan. 20, 1891
444,926	Thomson, E.	Heaters	Jan. 20, 1891
444,927	Thomson, E.	do	Jan. 20, 1891
444,928	Thomson, E.	do	Jan. 20, 1891
444,929	Thomson, E.	Cut-outs, thermal	Jan. 20, 1891
444,930	Thomson, E.	Meters	Jan. 20, 1891
444,931	Thomson, E.	do	Jan. 20, 1891
444,946	Thomson, E.	Heaters	Jan. 20, 1891
446,483	Thomson, E.	Railways, conductor supports and insulators	Feb. 17, 1891
447,383	Thomson, E.	Lights, arc, gravity feed, clutch	Mar. 3, 1891
447,384	Thomson, E.	Magneto-electric	Mar. 3, 1891
448,279	Thomson, E.	Lighting, systems	Mar. 17, 1891
448,280	Thomson, E.	Meters	Mar. 17, 1891
448,894	Thomson, E.	do	Mar. 24, 1891
449,356	Thomson, E.	Heaters	Mar. 31, 1891
449,357	Thomson, E.	do	Mar. 31, 1891
449,836	Thomson, E.	do	Apr. 7, 1891
450,687	Thomson, E.	Railways, systems, overhead	Apr. 21, 1891
451,345	Thomson, E.	Heaters	Apr. 28, 1891
452,951	Thomson, E.	Magneto-electric	May 26, 1891
454,090	Thomson, E.	Inductors, transformers, stationary	June 16, 1891
454,671	Thomson, E.	Telegraphy, lightning arresters	June 23, 1891
454,672	Thomson, E.	do	June 23, 1891
454,673	Thomson, E.	do	June 23, 1891
454,732	Thomson, E.	Cut-outs, electro-magnetic	June 23, 1891
454,890	Thomson, E.	Conductors, anti-inductive	June 30, 1891
440,662	Thomson, E. and Rice, E. W.	Lights, arc, gravity feed, clutch	Nov. 18, 1890
440,663	Thomson, E. and Rice, E. W.	do	Nov. 18, 1890
449,715	Thomson, E. and Rice, E. W., jr	do	Apr. 7, 1891
435,985	Thone, F.	Rheostats	Sept. 9, 1890
436,677	Thorne, J. and Burr, E. B.	Lights, incandescent, special features	Sept. 16, 1890
435,332	Thury, R.	Regulators	Aug. 26, 1890
441,903	Tiedemann, M. W.	Time alarms	Dec. 2, 1890
432,657	Timmis, I. A.	Batteries, secondary, applications	July 22, 1890
450,706	Tinkham, L. B.	Telegraphy, circuit closers	Apr. 21, 1891
440,091	Tinning, F. T. and W. K. S.	Telephones, supports	Nov. 4, 1890
453,435	Tinning, F. T. and W. K. S.	do	June 2, 1891
446,902	Tirrell, J. P.	Cut-outs, electro-magnetic	Feb. 24, 1891
451,312	Tischendoerfer, F.	Regulators	Apr. 28, 1891
446,037	Titus, J. E.	Drop lights and hangers	Feb. 10, 1891
438,570	Todd, A. E.	Railways, systems, telpher, solenoid	Oct. 21, 1890
454,091	Tommasi, D. and Theryc, C.	Batteries, secondary	June 16, 1891
440,934	Tompkins, D. A.	Lights, incandescent, special features	Nov. 18, 1890
449,639	Tompkins, S.	Railway signals, cab, sectional rail	Mar. 31, 1891
432,003	Torrey, A.	Recorders, passenger	July 8, 1890
436,025	Tower, G. A.	Railway signals	Sept. 9, 1890
453,317	Townsend, H. C.	Separators	June 2, 1891
454,630	Toye, B. B.	Telegraphy, multiplex	June 23, 1891
451,960	Tracy, L. W.	Lead pipe making	May 12, 1891
447,704	Traylor, R. W.	Motors	Mar. 3, 1891
432,098	Treber, J. M.	Telegraphy, relays and sounders	July 15, 1890
433,915	Tregurtha, A. T.	Lights, incandescent, special features	Aug. 5, 1890
448,167	Tregurtha, A. T.	Lights, sockets and keys	Mar. 10, 1891
449,767	Tregurtha, A. T.	Lights, incandescent, special features	Apr. 7, 1891

No.	NAME.	CLASS.	DATE.
449,921	Tregurtha, A. T	Lights, incandescent, special features	Apr. 7, 1891
454,238	Tremper, F. E. and Eisenhuth, J. W	Air and gas engines, explosive	June 16, 1891
440,906	Trott, S	Railways, systems, conduit	Nov. 18, 1890
433,554	True, L. L	Ball traps	Aug. 5, 1890
437,369	Tschira, A	Alarms	Sept. 30, 1890
436,405	Tucker, C. A	Lights, arc, positive feed	Sept. 16, 1890
448,698	Turner, D. B.	Cut-outs, mechanical	Mar. 24, 1891
449,889	Turner, G. E	Valve controllers	Apr. 7, 1891
439,445	Tushingham, F. G. and Dubois, H	Steam valves, throttle	Oct. 28, 1890
430,961	Upton, F. R. and Dibble, F. J	Telegraphy, fire, alarms and extinguishers	Sept. 23, 1890
440,208	Vanderhoef, G. N	Indicators	Nov. 11, 1890
446,801	Van de Plancke, D. and G.	Clocks, electric	Feb. 17, 1891
450,304	Van Choate, S. F	Lights, filaments and carbons	Apr. 14, 1891
431,492	Van Depoele, C. J	Motors, reciprocating	July 1, 1890
431,493	Van Depoele, C. J	do	July 1, 1890
431,494	Van Depoele, C. J	Transmission of power	July 1, 1890
431,495	Van Depoele, C. J	do	July 1, 1890
431,496	Van Depoele, C. J	do	July 1, 1890
432,345	Van Depoele, C. J	Electric locomotives	July 15, 1890
433,834	Van Depoele, C. J	Motors, alternating	Aug. 5, 1890
434,410	Van Depoele, C. J	Railways, systems, closed conduit	Aug. 12, 1890
434,684	Van Depoele, C. J	Railways, systems, converter	Aug. 19, 1890
434,685	Van Depoele, C. J	do	Aug. 19, 1890
434,686	Van Depoele, C. J	do	Aug. 19, 1890
434,687	Van Depoele, C. J	Railways, systems	Aug. 19, 1890
434,816	Van Depoele, C. J	Transmission of power	Aug. 19, 1890
435,261	Van Depoele, C. J	do	Aug. 26, 1890
435,262	Van Depoele, C. J	Railways, conductor supports and insulators	Aug. 26, 1890
435,263	Van Depoele, C. J	Railways, systems, closed conduit	Aug. 26, 1890
435,264	Van Depoele, C. J	Metal working, miscellaneous	Aug. 26, 1890
436,275	Van Depoele, C. J	Transmission of power	Sept. 9, 1890
436,276	Van Depoele, C. J	do	Sept. 9, 1890
436,277	Van Depoele, C. J	do	Sept. 9, 1890
437,533	Van Depoele, C. J	Railways, conductor supports and insulators	Sept. 30, 1890
437,534	Van Depoele, C. J	Railways, systems, overhead, trolleys	Sept. 30, 1890
437,535	Van Depoele, C. J	Electric locomotives	Sept. 30, 1890
438,452	Van Depoele, C. J	Car brakes	Oct. 14, 1890
440,976	Van Depoele, C. J	Railways, systems	Nov. 18, 1890
440,977	Van Depoele, C. J	Transmission of power	Nov. 18, 1890
442,019	Van Depoele, C. J	Electric locomotives	Dec. 16, 1890
443,980	Van Depoele, C. J	Motors, alternating	Dec. 30, 1890
444,188	Van Depoele, C. J	do	Jan. 6, 1891
445,102	Van Depoele, C. J	Stone working, drills	Jan. 20, 1891
447,215	Van Depoele, C. J	Railways, systems, converter	Feb. 24, 1891
448,561	Van Depoele, C. J	Electric locomotives	Mar. 17, 1891
448,562	Van Depoele, C. J	do	Mar. 17, 1891
448,563	Van Depoele, C. J	do	Mar. 17, 1891
450,541	Van Depoele, C. J	Transmission of power	Apr. 14, 1891
450,542	Van Depoele, C. J	Electric locomotives	Apr. 14, 1891
450,543	Van Depoele, C. J	Motors, reciprocating	Apr. 14, 1891
450,544	Van Depoele, C. J	Motors, alternating	Apr. 14, 1891
451,786	Van Depoele, C. J	Transmission of power	May 5, 1891
452,296	Van Depoele, C. J	do	May 12, 1891
433,835	Van Deusen, J. B	Telegraphy, keys	Aug. 5, 1890
451,142	Van Gestel, J. T	Batteries, galvanic	Apr. 28, 1891
447,385	Van Hoesen, G. D	Sack scales	Mar. 3, 1891
455,075	Van Hoevenbergh, H	Telegraphy, printing, wheel	June 30, 1891
449,301	Van Nuis, C. S	Cut-outs, mechanical	Mar. 31, 1891
449,302	Varley, R., jr	Bells	Mar. 31, 1891
450,390	Varley, R., jr	Annunciators	Apr. 14, 1891
441,861	Van Sant, W. S. and Eames, E. C	Fluid delivery	Dec. 2, 1890
439,614	Vaughn, B. E	Bells	Oct. 28, 1890
442,342	Vaughn, J. W	Telephones, systems	Dec. 9, 1890
439,213	Veeder, C. H	Applications, tools and machines	Oct. 28, 1890
435,872	Verstraete, E	Bridges, girders and columns	Sept. 2, 1890
438,036	Verstraete, E	do	Oct. 7, 1890
440,780	Verstraete, E	Railroads, systems, conduit	Nov. 18, 1890
440,781	Verstraete, E	do	Nov. 18, 1890
441,043	Verstraete, E	Conductors, underground	Nov. 18, 1890
454,532	Verstraete, E	Railways, systems, overhead, trolleys	June 23, 1891
438,037	Vetter, J. C	Rheostats	Oct. 7, 1890
454,584	Viles, F. T. and Young, N	Telephones, switch-boards	June 23, 1891
451,143	Villiers-Stead, F. and Hedgman, E. R	Telephones, systems	Apr. 28, 1891
431,088	Vincent, C. H	Telephones, calls	July 1, 1890
433,584	Vining, C. J	Annunciators	Aug. 5, 1890
442,155	Virtue, G. F	Applications, tools and machines	Dec. 9, 1890
445,008	Vogler, W	Railways, conductor supports and insulators	Jan. 20, 1891

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445,108	Vogler, W.	Railways, conductor supports and insulators	Jan. 20, 1891
439,055	Von Dérshau, A.	Fire arms, locks	Oct. 21, 1890
455,041	Von Hefner-Alteneck, F.	Clocks, electric	June 30, 1891
440,813	Von Kohler, H.	Telegraphy, circuit closers	Nov. 18, 1890
440,070	Von Syo, E.	Separators	Nov. 4, 1890
441,044	Waddell, W. H.	Railway signals	Nov. 18, 1890
444,512	Waddell, M. and Entz, J. B.	Electric locomotives	Jan. 13, 1891
482,500	Wagemann, E.	Magneto-electric	July 15, 1890
432,501	Wagemann, E.	Electric locomotives	July 15, 1890
436,728	Wagemann, E.	do	Sept. 16, 1890
439,584	Wagemann, E.	do	Oct. 28, 1890
440,242	Wagg, S. R.	Paper making, digesters	Nov. 11, 1890
453,681	Wagner, F. C.	Galvanometers	June 9, 1891
436,814	Wagnieu, A.	Lights, arc, gravity feed, clutch	Sept. 23, 1890
432,681	Waite, H. E.	Batteries, galvanic	July 22, 1890
454,095	Wakefield, W. O.	Applications, tools and machines	June 16, 1891
450,839	Walcott, J. E.	Conductors, lead-covered	Apr. 21, 1891
435,550	Walker, G. W.	Galvanometers	Sept. 2, 1890
431,630	Wallace, T.	Stone and brick setting	July 8, 1890
434,614	Walter, H. E.	Systems of distribution	Aug. 19, 1890
453,950	Walter, J. H.	Batteries, secondary	June 9, 1891
431,239	Walter, J. M.	Mining machines	July 1, 1890
451,999	Walter, W. C.	Railway signals, cab, sectional rail	May 12, 1891
453,097	Walter, W. C.	do	May 26, 1891
444,471	Ward, B. B.	Lights, filaments and carbons	Jan. 13, 1891
444,472	Ward, B. B.	Lights, arc, gravity feed, gear-clutch	Jau. 13, 1891
444,473	Ward, B. B.	Lights, arc, special features	Jan. 13, 1891
447,482	Ward, B. B.	Lighting, systems	Mar. 3, 1891
449,719	Ward, B. B.	Locomotive head lights	Apr. 7, 1891
449,236	Ward, J. H. R.	Lights, arc, special features	Mar. 31, 1891
449,237	Ward, J. H. R.	Lights, arc, gravity feed, gear-clutch	Mar. 31, 1891
449,238	Ward, J. H. R.	do	Mar. 31, 1891
451,189	Ward, J. H. R.	do	Apr. 28, 1891
454,816	Ward, J. H. R.	Telegraphy, circuit closers	June 23, 1891
443,556	Wardwell, H. H.	Batteries, secondary	Dec. 30, 1890
446,488	Waring, J.	Speed measures	Feb. 17, 1891
433,636	Warner, E. P.	Telephones, systems	Aug. 5, 1890
433,917	Warner, E. P.	Conductors	Aug. 5, 1890
448,169	Warner, E. P.	Annunciators	Mar. 10, 1891
453,029	Warner, E. P.	Cut-outs, thermal	May 26, 1891
444,284	WARTH, A.	Mechanical movements	Jan. 6, 1891
444,285	WARTH, A.	do	Jan. 6, 1891
444,286	WARTH, A.	do	Jan. 6, 1891
444,287	WARTH, A.	do	Jan. 6, 1891
451,540	Washhurn, G. A.	Batteries, secondary	May 3, 1891
451,541	Washhurn, G. A.	do	May 5, 1891
455,138	Wass, D. D.	Annunciators	June 30, 1891
438,041	Watkins, R. L.	Electrodes	Oct. 7, 1890
451,250	Waterhouse, A. G.	Lights, arc, gravity feed, clutch	Apr. 23, 1891
435,338	Watson, J. A.	Printing, matrix-making	Aug. 26, 1890
454,313	Webb, G. F.	Medical and surgical, body-wear	June 16, 1891
449,186	Webb, J. W.	Batteries, thermal	Mar. 31, 1891
450,853	Webber, H. A.	Railways, systems, overhead, trolleys	Apr. 21, 1891
431,131	Webber, W.	Drilling and boring	July 1, 1890
440,210	Weed, E. B.	Batteries, secondary	Nov. 11, 1890
452,741	Weems, D. G.	Railways, systems, telpher	May 19, 1891
431,633	Wehrle, J. H.	Railways, systems, conduit	July 8, 1890
431,634	Wehrle, J. H.	do	July 8, 1890
434,036	Wehrle, J. H.	do	Aug. 12, 1890
437,953	Wehrle, J. H.	do	Oct. 7, 1890
445,741	Weller, F. A.	Motors	Feh. 3, 1891
449,604	Weller, F. A.	Lights, sockets and keys	Mar. 31, 1891
434,853	Wessel, F. A.	Rheostats	Aug. 19, 1890
449,358	Wessel, F. A.	Electro-magnets	Mar. 31, 1891
450,206	Wessel, F. A.	Conductors, underground	Apr. 14, 1891
452,420	Wessel, F. A.	Magneto-electric	May 19, 1891
453,318	Wessel, F. A.	Regulators	June 2, 1891
453,319	Wessel, F. A.	do	June 2, 1891
453,320	Wessel, F. A.	do	June 2, 1891
439,262	Westerland, L.	Railways, systems, conduit	Oct. 28, 1890
434,165	Westinghouse, G., jr.	Conductors, underground	Aug. 12, 1890
436,260	Westinghouse, G., jr.	Inducto-riums, transformers, stationary	Sept. 9, 1890
450,652	Westinghouse, G., jr.	Electric locomotives	Apr. 21, 1891
446,159	Westinghouse, G., jr., and Schreuder, J. G.	Railway signals	Feh. 10, 1891
433,637	Weston, E.	Galvanometers	Aug. 5, 1890
439,737	Weston, E.	Batteries, galvanic	Nov. 4, 1890
440,289	Weston, E.	Galvanometers	Nov. 11, 1890

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440,290	Weston, E.	Galvanometers	Nov. 11, 1890
440,291	Weston, E.	do	Nov. 11, 1890
442,843	Weston, E.	do	Dec. 16, 1890
444,803	Weston, E.	do	Jan. 13, 1891
444,804	Weston, E.	do	Jan. 13, 1891
444,805	Weston, E.	do	Jan. 13, 1891
446,489	Weston, E.	do	Feb. 17, 1891
446,490	Weston, E.	Rheostats	Feb. 17, 1891
446,491	Weston, E.	Galvanometers	Feb. 17, 1891
446,492	Weston, E.	do	Feb. 17, 1891
446,493	Weston, E.	do	Feb. 17, 1891
446,494	Weston, E.	do	Feh. 17, 1891
452,326	Weston, E.	do	May 12, 1891
442,654	Weyburn, E. D.	Applications, tools and machines	Dec. 16, 1890
433,754	Whartou, W., jr.	Street cars, steam	Aug. 5, 1890
441,220	Wheatley, S. E.	Railways, systems, cirenits, multiple arc	Nov. 25, 1890
441,221	Wheatley, S. E.	Railways, systems, conduit	Nov. 25, 1890
431,092	Wheeler, F.	Railways, systems, overhead	July 1, 1890
431,093	Wheeler, F.	do	July 1, 1890
431,094	Wheeler, F.	do	July 1, 1890
431,095	Wheeler, F.	do	July 1, 1890
453,225	Wheeler, F.	Connectors	June 2, 1891
433,839	Wheeler, F. C.	Railways, systems, overhead, trolleys	Aug. 5, 1890
448,395	Wheeler, G. K.	Insulators	Mar. 17, 1891
449,721	Wheeler, G. K.	Connectors	Apr. 7, 1891
453,070	Wheeler, G. K.	Railways, conductor supports and insulators	May 26, 1891
451,884	Wheeler, S. S.	Magneto-electric	May 5, 1891
451,885	Wheeler, S. S.	Metal working, miscellaneous	May 5, 1891
455,267	Wheeler, S. S.	Regulators	June 30, 1891
448,598	Wheeler, S. S. and Bradley, C. S.	Railways, systems	Mar. 17, 1891
433,918	Wheless, M.	Railways, systems, circuits, multiple arc	Aug. 5, 1890
435,471	Wheless, M.	do	Sept. 2, 1890
438,262	Wheless, M.	do	Oct. 14, 1890
440,213	Wheless, M.	do	Nov. 11, 1890
441,210	Wheless, M.	Railways, systems, conduit	Nov. 25, 1890
441,211	Wheless, M.	Railways, systems, circuits, multiple arc	Nov. 25, 1890
441,212	Wheless, M.	Railways, systems, conduit	Nov. 25, 1890
441,213	Wheless, M.	Electric locomotives	Nov. 25, 1890
441,214	Wheless, M.	Railways, systems, closed conduit	Nov. 25, 1890
441,215	Wheless, M.	Car brakes	Nov. 25, 1890
441,216	Wheless, M.	Railways, systems, closed conduit	Nov. 25, 1890
441,217	Wheless, M.	Railways, systems, circuits	Nov. 25, 1890
441,218	Wheless, M.	Railways, systems, circuits, multiple arc	Nov. 25, 1890
441,219	Wheless, M.	do	Nov. 25, 1890
450,441	Whipple, F. E.	Motors	Apr. 14, 1891
443,557	Whitcomb, A. W.	Lights, arc, gravity feed, gear-clutch	Dec. 30, 1890
438,788	White, A. C.	Telegraphy, lightning arresters	Oct. 21, 1890
447,220	White, A. C.	Telephones, systems	Feb. 24, 1891
441,458	White, L. R. S.	Igniting devices, automatic	Nov. 25, 1890
451,190	White, L. R. S.	Cut-outs, mechanical	Apr. 28, 1891
453,455	White, L. R. S.	Lights, sockets and keys	June 2, 1891
434,038	White, O. B.	Drop lights and hangers	Aug. 12, 1890
445,724	White, O. C.	Lights, arc, gravity feed, clutch	Feb. 3, 1891
449,188	White, W.	Cut-outs, mechanical	Mar. 31, 1891
433,394	White, W. R.	Cut-outs, thermal	Oct. 14, 1890
446,907	Whitlock, E.	Elevators	Feb. 24, 1891
448,468	Whitney, E. R.	Lights, incandescent, special features	Mar. 17, 1891
436,050	Whittier, T. P.	Batteries, secondary	Sept. 9, 1890
436,952	Whittingham, G. H.	Cut-outs, thermal	Sept. 23, 1890
438,721	Whittingham, G. H.	do	Oct. 21, 1890
452,151	Whittingham, G. H.	Motors	May 12, 1891
452,152	Whittingham, G. H.	Cut-outs, thermal	May 12, 1891
439,916	Whittlesey, J. T.	Railways, systems, overhead, trolleys	Nov. 4, 1890
450,272	Wickes, R. O.	Telegraphy, relays and sounders	Apr. 14, 1891
433,706	Widdifield, W. P. and Bowman, A. H.	Conductors	Aug. 5, 1890
436,512	Wiegand, S. L.	Telephones, magnetic	Sept. 16, 1890
436,513	Wiegand, S. L.	Telephones, electric	Sept. 16, 1890
436,514	Wiegand, S. L.	Telephones, relays and repeaters	Sept. 16, 1890
437,069	Wiesebrock, F. W.	Optics, distance instruments	Sept. 23, 1890
455,268	Wiesebrock, F. W.	Telethermometers	June 30, 1891
435,958	Wightman, M. J.	Motors	Sept. 9, 1890
442,407	Wightman, M. J.	Railways, systems, circuits, multiple arc	Dec. 9, 1890
444,900	Wightman, M. J.	Motors	Jan. 20, 1891
448,172	Wightman, M. J.	Railways, systems, overhead, trolleys	Mar. 10, 1891
448,173	Wightman, M. J.	do	Mar. 10, 1891
436,030	Wilder, E. R.	Alarms, burglar	Sept. 9, 1890
445,106	Wiley, E. C.	Railway signals	Jan. 20, 1891

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446,313	Wiley, E. C	Railway signals	Feb. 10, 1891
433,920	Wiley, G. L. and Acheson, E. G	Conductors	Aug. 5, 1890
433,921	Wiley, G. L. and Acheson, E. G	do	Aug. 5, 1890
433,922	Wiley, G. L. and Acheson, E. G	do	Aug. 5, 1890
449,990	Wilhelm, C. W	Railway signals, sectional rail	Apr. 7, 1891
437,272	Wilking, F. and Müller, H	Batteries, secondary, applications	Sept. 30, 1890
452,250	Williams, C. D	Medical and surgical, body-wear	May 12, 1891
447,594	Williams, H. B	Recorders	Mar. 3, 1891
450,985	Williams, J. A	Regulators	Apr. 21, 1891
451,586	Williams, J. B	Conductors	May 5, 1891
451,587	Williams, J. B	do	May 5, 1891
452,091	Williams, J. B	do	May 12, 1891
452,510	Williams, J. B	do	May 19, 1891
452,725	Williams, J. B	do	May 19, 1891
433,381	Williams, J. T	Railways, systems, telpher, solenoid	July 29, 1890
436,281	Williams, J. T	do	Sept. 9, 1890
447,857	Williams, P. G	Medical and surgical, body-wear	Mar. 10, 1891
434,746	Williams, R. E	do	Aug. 19, 1890
450,840	Willms, C	Batteries, galvanic	Apr. 21, 1891
444,374	Wilson, C. E	Cut-outs, mechanical	Jan. 6, 1891
434,899	Wilson, C. E	do	Aug. 19, 1890
446,214	Wilson, C. H	Conductors, underground	Feb. 10, 1891
433,505	Wilson, J. C	Telegraphy, fire	Aug. 5, 1890
444,144	Wilson, J. C	do	Jau. 6, 1891
448,398	Wilson, J. C	do	Mar. 17, 1891
448,399	Wilson, J. C	do	Mar. 17, 1891
448,400	Wilson, J. C	do	Mar. 17, 1891
448,401	Wilson, J. C	do	Mar. 17, 1891
433,504	Wilson, J. C. and Noyes, B. J	Thermostats	Mar. 17, 1891
450,690	Wilson, T. S	Telegraphy, fire	Aug. 5, 1890
435,340	Wilson, W. H	Electrodes	Apr. 21, 1891
431,134	Winkler, C. F	Railway signals	Aug. 26, 1890
433,557	Winkler, C. F	Magneto-electric	July 1, 1890
438,668	Winkler, C. F	do	Aug. 5, 1890
454,541	Winkley, E. E	do	Oct. 21, 1890
445,790	Winton, H. D	Valve controllers	June 23, 1891
436,964	Wirt, C	Insulators	Feb. 3, 1891
440,384	Wirt, C	Magneto-electric	Sept. 23, 1890
444,966	Wirt, C	Rheostats	Nov. 11, 1890
448,792	Wirt, C	Galvanometers	Jan. 20, 1891
438,211	Wirt, H. C	do	Mar. 24, 1891
446,826	Wirt, H. C	Railways, conductor supports and insulators	Oct. 14, 1890
448,703	Wirt, H. C	Lights, incandescent, special features	Feb. 17, 1891
452,299	Wiseman, A. G	Railways, conductor supports and insulators	Mar. 24, 1891
446,199	Wood, F. B	Clocks, electric	May 12, 1891
454,924	Wood, F. B	Telegraphy, fire	Feb. 10, 1891
431,681	Wood, J. J	Annunciators	June 30, 1891
437,387	Wood, J. J	Lights, sockets and keys	July 8, 1890
441,999	Wood, J. J	Machines for winding	Sept. 30, 1890
442,501	Wood, J. J	Telegraphy, lightning arresters	Dec. 2, 1890
443,693	Wood, J. J	Meters	Dec. 9, 1890
438,590	Woods, G. T	Cut-outs, mechanical	Dec. 30, 1890
434,224	Woodward, H	Lighting, systems	Oct. 14, 1890
433,384	Woodward, J. H	Batteries, secondary	Aug. 12, 1890
445,295	Wollensak, J. F	Electrodes	July 29, 1890
436,516	Wollensak, J. F. and Gill, W. E	Bells	Jan. 27, 1891
450,923	Woolley, L. G	Batteries, galvanic	Sept. 16, 1890
439,047	Wollin, W. F. and Werline, E. H	Inductometers, induction coils	Apr. 21, 1891
439,850	Woolf, A. E	Lights, sockets and keys	Oct. 21, 1890
440,216	Woolf, A. E	Batteries, secondary	Nov. 4, 1890
445,306	Woolcott, C. M. and Wilmot, A. E	do	Nov. 11, 1890
444,477	Wright, A. P	Alarms	Jan. 27, 1891
446,502	Wright, E. G	Conductors	Jau. 13, 1891
455,086	Wright, G. W	Miscellaneous compositions	Feb. 17, 1891
455,087	Wright, G. W	Telegraphy, circuit closers	June 30, 1891
447,853	Wright, T. F. and Wilson, E. G	Lights, arc, positive feed, gear-clutch	June 30, 1891
446,544	Wright, W	Anti-induction devices	Mar. 10, 1891
436,944	Wright, W. H. S	Batteries, galvanic	Feb. 17, 1891
434,166	Wurts, A	Railways, systems, overhead	Sept. 23, 1890
424,167	Wurts, A	Telegraphy, lightning arresters	Aug. 12, 1890
424,168	Wurts, A	do	Aug. 12, 1890
424,169	Wurts, A	Cut-outs, thermal	Aug. 12, 1890
434,170	Wurts, A	do	Aug. 12, 1890
424,371	Wurts, A	Telegraphy, lightning arresters	Aug. 12, 1890
433,430	Wurts, A. and Baldwin, O. H	do	Aug. 12, 1890
443,157	Wyckoff, A. B	do	July 29, 1890
451,101	Young, C. G	Lighting, systems	Dec. 23, 1890
		Lights, arc, gravity feed, gear-clutch	Apr. 28, 1891

No.	NAME.	CLASS.	DATE.
453,281	Young, C. G.	Lighting, systems	June 2, 1891
442,162	Young, H. H.	Conductors, underground	Dec. 9, 1890
437,668	Young, J.	Telegraphy, fire, alarms and extinguishers	Sept. 30, 1890
449,923	Youngs, E. F.	Type-writing	Apr. 7, 1891
451,548	Zagelmeyer, L.	Telegraphy, circuit closers, thermal	May 5, 1891
454,245	Ziegler, J. O.	Railway signals	June 16, 1891
449,890	Zingsen, F. W.	Electro-deposition	Apr. 7, 1891
433,758	Zipernowsky, C. and Déri, M.	Transmission of power	Aug. 5, 1890
439,459	Zipernowsky, C., Déri, M. and Bláthy, O. T.	Motors, alternating	Oct. 28, 1890
445,583	Zipernowsky, C.	Electric locomotives	Feb. 3, 1891
452,056	Zipernowsky, C.	Heaters	May 12, 1891
434,076	Zöpke, F. G. C.	Conductors, underground	Aug. 12, 1890



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